



UWI TODAY

THE UNIVERSITY OF THE WEST INDIES · ST. AUGUSTINE CAMPUS

SUNDAY 27TH JUNE, 2010



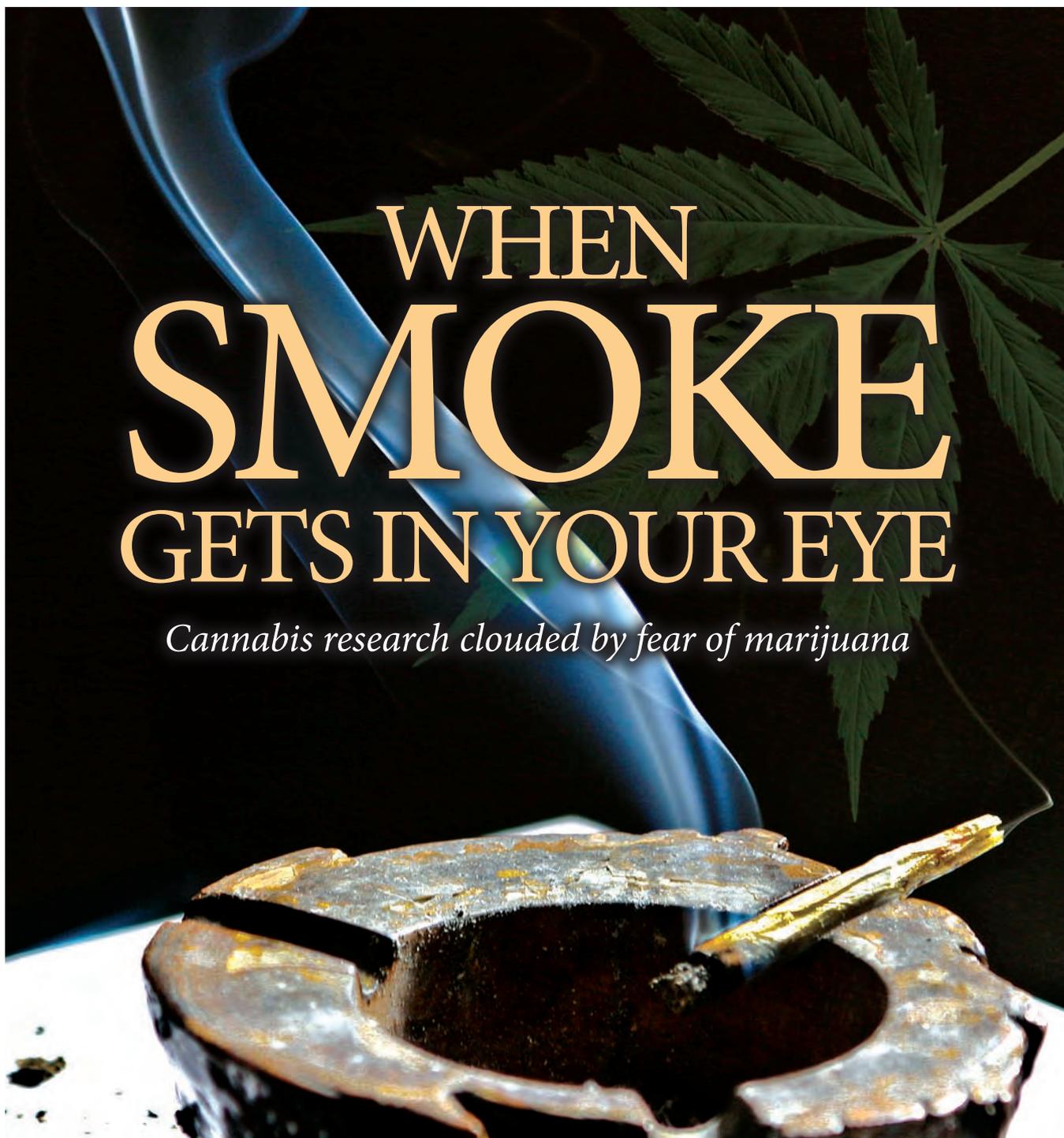
Medical research confirms that *Cannabis sativa* has been used medicinally for thousands of years, yet its prominence arose from use in its marijuana or ganja form. Despite the controversies surrounding smoking marijuana—it is illegal in most countries—scientists have continued to look at its properties and the impact on the human system.

Over the past four decades, research has come up with many breakthrough findings, starting when the primary active ingredient of cannabis, delta-9-tetrahydrocannabinol (THC) was identified in the sixties, and then in 1990 when the first THC receptor in the brain was discovered.

One of the lecturers in the Department of Pre-Clinical Sciences at UWI St. Augustine, **Dr Farid Youssef**, and **Andrew Irving** of the Neurosciences Institute at the University of Dundee, recently presented a review of some of the latest developments in cannabis research, including the identification of at least five endogenous cannabinoid neurotransmitters in the body. These endocannabinoids are widely distributed and affect processes such as learning and memory, regulation of appetite, immune function, and reward pathways, for example.

“Numerous stereotypes associated with cannabis, in addition to the well known adverse health consequence associated with chronic smoking of cannabis, does little to help sell the concept of cannabis as a substance with enormous therapeutic potential. Recent advances in our understanding of the actions of cannabis and related ligands on the body suggest that now is a good time to change public opinion,” they assert.

In our special focus on cannabis and its agency on the human mind and body, Dr Youssef explains some of the research and its potential effects, while psychiatrist **Professor Gerard Hutchinson** discusses how some people are genetically more inclined to psychotic reactions, and psychiatrist **Dr Sandra Reid** reviews the debate on whether marijuana should be legalised.



TECHNOLOGY - 05
Long Distance Link
■ Primary School goes Online

AGRI-BUSINESS - 04
Mango Festival

■ A Day of Sweet Delight



TRAINING - 14
McMaster Partner

■ Oncology Nurses get Cancer Training



FIFTY AND FORGING AHEAD
1960-2010

CAMPUS NEWS



APETT AWARD

Professor Clement Sankat, Pro Vice Chancellor of The UWI and Principal of the St Augustine Campus, received the Award of “Career of Excellence in Engineering” from the Association of Professional Engineers of Trinidad and Tobago (APETT) earlier this month.

At the APETT 50th Annual Honours and Awards Ceremony, the award was presented by feature speaker the Honourable Mary King, Minister of Planning, Economic and Social Restructuring and Gender Affairs, after which Prof Sankat addressed the gathering.

The Campus Principal has joined the exclusive company of previous awardees, distinguished professionals such as Professor Kenneth S. Julien (1992), Professor Ignatius Imbert (2001) and Professor Gurmohan Kochhar (2003), as well as APETT foundation members Fenrick R. De Four (1993) and A. Majid Ibrahim (2002).

PHOTO: S ANEEL KARIM



MEETING THE MINISTER

(From left) Mrs Margaret Richardson, Permanent Secretary in the Minister of Science, Technology and Tertiary Education (STTE), Professor Clement Sankat, Pro Vice Chancellor of The UWI and Principal of the St Augustine Campus, and the Honourable Fazal Karim, newly appointed Minister of Science, Technology and Tertiary Education, share a moment during a luncheon to welcome the new Minister, held on Wednesday 16th June 2010 at the Office of the St Augustine Campus Principal. Members of Campus Management, Faculty Deans, and several senior administrative members of staff attended the luncheon ceremony.



Dr Hamid Ghany, Dean of the Faculty of Social Sciences, greets Mr Goolam Rajah at the function.

LESSONS IN CRICKET TRANSFORMATION

The Faculty of Social Sciences, UWI St. Augustine recently hosted the Seventh Annual Sonny Ramadhin Distinguished Cricket Lecture, which was delivered by Mr. Goolam Rajah, Logistics Manager of the touring South African national cricket team. Mr. Rajah has been in a management position with the South African cricket team since the end of apartheid, and is also currently Manager of the Deccan Chargers in the Indian Premier League.

Mr Rajah’s lecture was titled “Transformation over the last 20 years in South African Cricket,” particularly relevant to West Indians seeking models upon which to base the transformation of the region’s cricket.

FROM THE PRINCIPAL

In the Service of National and Regional Development



Immediately after the national election results were revealed on May 24, the Vice Chancellor and I offered formal congratulations, on behalf of The University of the West Indies, to the Honourable Kamla Persad-Bissessar, the first female Prime Minister of the Republic of Trinidad and Tobago, and an alumna of The UWI.

As Ministerial and other portfolios were announced, it became clear that several holders of these high offices, including those on the Opposition side, are alumni of The UWI, and in some cases, also former staff members. I am proud of them. The new Minister of Science, Technology & Tertiary Education, the Honourable Fazal Karim, worked previously as Business Development Manager at the St. Augustine Campus and we are pleased that he found the time to visit so soon after his appointment. Our conversation with him and the Permanent Secretary, Margaret Richardson, covered many areas, and as time goes by, I look forward to seeing the ideas and plans we discussed come to fruition for the benefit of our students, staff and the advancement of higher education.

On reflecting on the significance of these appointments, it struck me that it reinforces the point I have been making that this University is creating a broad cadre of leaders who continue to rise to the challenges of leadership in the region. I often say that building leaders for our society is what distinguishes The UWI, and is one of the components of development that the University endorses fully.

This is part of a wider vision that true development can only fully be achieved if we embrace the view that national service is an important element of personal and professional growth, which should be nurtured in our young people and supported by the private and public sector. We strive to create and support graduates who exemplify a strong sense of civic-mindedness and who respond readily to the call to serve.

In light of this, I wish to thank the former administration for its support of the regional university, to reiterate my congratulations to our new administration and to pledge the University’s continued support towards building a more competitive Trinidad and Tobago and Caribbean region.

CLEMENT K. SANKAT

Pro Vice Chancellor & Principal

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■ CAMPUS NEWS



Chow down at the MANGO FESTIVAL

Did you know that the succulent Julie mango really comes from Trinidad even though the world's mango family was really born in India? At first blush, it sounds like the story of indentured labour, but in truth, when you think about the varieties of mango that have sprung up wherever there is warm, dry weather in the world, it is really the tale of globalization—everything is everywhere, just bearing the stamp of its immediate environment.

Although nearly half of the world's mangos are cultivated in India, there are innumerable varieties from region to region. In the Caribbean alone several types can be found and everyone has their favourite (and their favourite way to eat them!). In Trinidad, the most popular ones are the Julie and the Starch, which now fetch high prices at the market.

But how many can recall names like Long mango, Rose, Hog, Calabash, Manzanilla Douxdoux, La Brea Gyul, Turpentine, Mangotine, Graham, Ten-pound, Bastapool, Belly-bef, Cedar, Cutlass, Peter, Vert, Zabrico; or traditional Tobago fare like Ice-cream, Mango Mossy and John Buck Mangoes in Moriah and Suppie Mango in Bon Accord, or Button Mangoes in Charlotteville?

Well, the upcoming Trinidad and Tobago Mango Festival offers a chance to discover or rediscover the pleasure David Rudder invoked in "Song for a Lonely Soul" with the

lines, "A mind excursion it can take me/ To a far off country road / Sticky mango juice running down my naked chest."

You might not get drenched in sticky mango juices, but there is a lot to be had at this second edition of the day-long Festival which takes place on Sunday July 25 at the University Field Station in Mt Hope from 10am.

The day is full of activities meant to promote mango as a business enterprise, to teach people about the various features of mango life and to offer some tempting mango delicacies and fruit. The day opens with a mango market, and then a presentation on how mangos are used around the world in various ceremonies. Just after lunch the formal part kicks in, and this includes a tea party. Storytellers will tell the tales of the mango at a specially set up storytelling centre and of course, there will be discussions of the place of the mango in Caribbean literature. Naturally, the day will end with a chow-down of sorts: competitions to see who can prepare the wickedest mango dish, who can smell and name a mango, and who can produce the best display.

It is a richly textured day, fulfilling the challenge the Network of Rural Women Producers Trinidad and Tobago (NRWP) set for themselves when they decided to hold the first festival in August 2009. Then they had dedicated themselves to providing "a day of education about the values of mangoes," said Gia Taylor, one of the key organisers.

"It is still a day of fun, community education, including, activities for all ages, story telling, 'smell and name the mango' best mango chow, best mango display, grafting, sweets jellies, cakes, teas, beauty products, religious cultural uses, medicinal uses and more," she said.

This year, the Business Development Unit of The Faculty of Science and Agriculture at The UWI has joined with them, taking three booths, and adding such dimensions that "business development and the educational aspect will be given top billing this year," she said.

"We stake claim to the Festival as the original organization to host the event," said Taylor. "Our partners are The Food and Agriculture Organization of the United Nations (FAO) and Inter-American Institute for Corporation on Agriculture, (IICA) The Ministry of Food Production, Land and Marine Services, and we are very pleased have UWI join us."

Saying that she looked forward to the Tourism Development Company listing this as an annual attraction, she added that they hope to see the Festival grow to a two-day event.



Organising committee for the Mango Festival, finalizes plans: (from left) Kathryn Duncan (IICA), Yolande Selman (TDC), Rose Rajbansee (NRWP), Gia Gaspard-Taylor (NRWP), Dr. Brian Cockburn (UWI), Shanae Bissoon (Intern, IICA), Sarissa Narine (Intern, IICA).



TRINIDAD AND TOBAGO MANGO FESTIVAL 2010

Sunday July 25, 2010
10am – 6pm
University Field Station, Mt Hope

Admission:
Adults \$10
Children over 12: \$5,
Under 12: Free

A FIRST IN LONG DISTANCE WIRELESS NETWORKING

The official launch of the long-distance wireless network link created from the UWI St Augustine Campus to the St David's RC primary school in Kelly Village took place on Friday 11th June 2010. A demonstration of the capability of the wireless network was carried out in a classroom setting at the school. Students used the internet on laptops in a classroom to find information about hurricanes via the National Geographic website.



The antenna set up at the St David's RC school to capture the Wi-Fi signal from the UWI antenna.

This is the first time this type of low-cost long-distance Wi-Fi based networking technology has been implemented in the Caribbean. This technique can be utilized by newly trained personnel at The UWI St Augustine to create and maintain similar long-distance Wi-Fi network links to service the rural areas of Trinidad and Tobago at a minimal cost.

Earlier in the week, the Department of Mathematics and Computer Science from the Faculty of Science and Agriculture facilitated a wireless workshop on "Low Cost Wireless Computer Networking." Dr. Donna Comissiong and Mr. Naresh Seegobin were the principal organizers. Ermanno Pietrosemoli and three of his associates from the ICTP (International Center for Theoretical Physics, Trieste, Italy) were the instructors. The funding agencies that facilitated this along with The UWI were the ICTP, EsLaRed, ISOC, NSRC and WirelessU.

During the training week, a Wi-Fi link between UWI's St. Augustine Campus and the St. David's R.C. school was activated. The basic infrastructure, including poles and network connectivity, was set up during the first days of the workshop. Later, adjustments to the antennae were made and network routing configurations were validated.

The 158 Standard Three students who were exposed to the demonstration were thrilled, particularly the boys (there are one hundred of them), said Principal Kathleen Pierre-Holder.

"In that group of children, I saw the change in attitude in the boys," she said. "Not that the girls are not interested, but the expression on the boys' faces was something."

Saying that one of the challenges they face is to find strategies to keep the boys excited, she wished for more of that technology.

"I really want to see the technology in the classroom. I can see our boys coming alive and they can do something if they have the technology."



Lauren Winth sits next to Kaream Oliver, while Shemar Daniel leans over interestedly as Standard Three students at the St. David's Primary School learned about hurricanes via the National Geographic website. They were using the new wireless link provided by a first-ever long-distance link with The UWI St. Augustine Campus.

The transformation it can bring was tingling in their eyes, and as Pierre-Holder beheld it, she was moved.

"It was an awesome moment," she concluded.

The purpose of this workshop was to train local staff and graduate students to create and successfully implement and maintain this low-cost Wi-Fi technology. Participants are now fully prepared to train others to do the same. The Department hopes to build on this initiative to create similar wireless network links around the country, especially in rural communities where internet connections are not currently available. This initiative can later be expanded to include the rural areas of Tobago, and later on, the rest of the Caribbean islands.

PHOTOS: MARCO ZENNARO, ICTP

RESEARCH

LISTEN TO THE DEAF

BY SAMANTHA S. P. MITCHELL

Although many Deaf receive an appropriate primary school education, many do not go on to pursue secondary and tertiary level studies. Recent studies continue to find a positive correlation between tertiary education and wage earning capacity, which points to the need for authorities to provide opportunities for members of the Deaf community and other Persons With Disabilities (PWDs) to explore their academic potential at the tertiary level. These issues were the focus of the Seminar on Deaf Language and Culture held on May 29th, at the Center for Language Learning, UWI, St. Augustine.

An ILO Caribbean Regional Technical Meeting in 1994 on *National Disability Policy and Legislation to Promote Equality of Opportunity and Treatment in Training and Employment of Disabled Persons* called on regional governments to “stimulate national awareness and action to create training and employment opportunities for PWDs, by organising national seminars involving the social partners and organisations of PWDs in order to determine national disability policy objectives and legislative needs.”

The Ministry of Social Development of Trinidad and Tobago must be lauded for its efforts through such initiatives as the collaborative compilation of “The Dictionary of Trinidad and Tobago Signs: First Edition,” and the use of interpreters for various public announcements.

Countries such as Guyana, Barbados, Antigua, St. Lucia and Trinidad and Tobago, have completed consultations and/or implemented recommendations towards developing national disability policies. The Ministry of Social Development of Trinidad and Tobago must be lauded for its efforts through such initiatives as the collaborative compilation of “The Dictionary of Trinidad and Tobago Signs: First Edition,” and the use of interpreters for various public announcements.

Co-organizer of the Seminar, Dr. Benjamin Braithwaite, said the aim was to ensure that the Deaf spoke in their own voice on issues pertinent to their advancement. He indicated that much was happening in the area of Deaf language and



Selwyn Alleyne (right), Deaf participant, who was involved in the compilation of the sign language dictionary.

Ryan Ramjattan (left), Deaf participant and interpreter, on the importance of interpreters being highly skilled.

culture, such as the launching of the Trinidad and Tobago Association of Interpreters for the Deaf (TTAID), the publication of the dictionary, and the commencement of new courses in sign language/interpretation at UWI.

Professor Valerie Youssef saw the forum and the courses in Sign Language as a dream come true, following almost five years of negotiations with the Ministry of Social Development to set up a Caribbean/Trinidad Sign Language programme. She said it was important not to simply import or adopt a programme from a foreign university, the emphasis of which would be American Sign Language (ASL), to the detriment of Trinidad Sign Language.

Deaf participant, Ryan Ramjattan, spoke of the need for interpreters to be highly skilled and to educate themselves in various subject areas, so that they could be in sync with the culture and signing styles of the Deaf person. He lamented that the language barrier between hearing and non-hearing persons was a disadvantage to the Deaf in daily life, and even in job interviews where they appeared to be uneducated. Azim Kallan shared his challenges as a

Deaf student, saying that even though he was well educated in his field, many persons still marveled at the fact that he was so highly skilled ‘for a Deaf person’. He indicated the need for hearing persons to change this perception, as the Deaf are capable of performing competently alongside their hearing peers, once provided with the necessary educational opportunities and work support.

Cheryl Maniram stressed the need for a meshing of ASL and Trinidad Sign Language into a mutually intelligible Deaf language which would bridge the gap between younger and older users respectively. Dana Smith shared the challenges of pursuing a degree as a Deaf student at the University of Trinidad and Tobago, and reiterated the importance of having interpreters whose level of education was capable of meeting tertiary level needs.

Nicole Fraser-Paul of the TTAID shared the group’s intention to pursue further training towards provision of more quality services to the Deaf. Also highlighted was the need for interpreters to specialize in various areas to effectively serve in health, tertiary and judicial institutions. Shawn Mitchell raised the issue of geographic differences in signing between Tobago and Trinidad and various parts of the islands, and advocated the need for standardization/codification to mitigate these differences. An overarching theme was the need for the Deaf to take responsibility for their advancement and to stop blaming family or society; rather, there was need for them to develop agencies to fight for better resources, more teachers, more interpreters and a more widespread acknowledgement of the importance and role of their language.

While some may argue that scarce resources cannot be further stretched to provide for the specialized educational needs of the Deaf and by extension, other PWDs at the tertiary level, it is important to provide means for those Deaf who wish to pursue tertiary studies within the Caribbean, especially due to the fact that while cases of congenital (from birth) deafness have been decreasing mainly due to early screening and immunization, sudden or acquired deafness is on the increase, as a result of accidents and occupational causes respectively.

DIPLOMA IN CARIBBEAN SIGN INTERPRETING

By Professor Valerie Youssef



The Dept. of Liberal Arts will be offering a Diploma in Caribbean Sign Interpreting programme for the first time in the academic year 2010-11. This is a first for us in several ways. It is the first time that we have offered a substantial part of a programme by video-conferencing with the Mona Campus. It is also the first time we have been privileged to offer a programme of direct benefit to the Deaf Community of Trinidad and Tobago. And finally it is the first time that Sign Interpreting has been recognized as a necessity for consideration by the hearing community, pushing back the barrier that has separated the deaf from the hearing in the Trinidad and Tobago context.

Jamaica has a large and vibrant deaf community and the Mona Programme has been running for some time. It was conceptualized and organized there by Trinidadian Ph. D. student Keren Niles-Cumberbatch who will be our main teacher of Sign for the first running of our local programme. Our own local staff members, Kathy-Ann Drayton and Ben Braithwaite, have been studying Sign intensively as well as collecting data throughout the country on the varieties in use. Ferne Regis has also been working on the latter exercise.

In Trinidad and Tobago our efforts have been persistent over five years of liaison with the Ministry of Social Development to bring us to a position of readiness for offering the programme. We have had to compete with US institutions far better resourced than ourselves but have maintained that our students needed to have Interpreters work with our own Sign and not American Sign Language. Frustrations have resulted from persons not fully understanding the extent of difference among different sign languages but finally we have been able to prevail. We are now hoping only that our trainee Interpreters may be GATE funded! This would be a tremendous support as we press forward in this vital area of national engagement.

Prof Valerie Youssef is a Professor of Linguistics, and Coordinator of Linguistics Graduate Programmes, Liberal Arts Department, UWI, St. Augustine.

MISSION ACCOMPLISHED

WOW

WORLD of WORK

MISSION

The World Of Work Programme (WOW) is an annual professional development series offered to all students of The University of the West Indies (UWI) and focused mainly on providing career guidance to final year students.

TRAINING

WOW 2010 kicked off on February 4th with the WOW Interview Preparation and Resume Writing Workshop. Also in February, at the WOW Seminar, student job seekers were coached on image building, dressing for success, entrepreneurship and professional work ethic by some of the nation's leading human resource development experts. This year, the programme brought over 50 local and regional corporate entity representatives together with more than 1200 students at the highly anticipated WOW Mock Interviews and WOW Recruitment Fair.

ACKNOWLEDGEMENTS

The University is deeply grateful to Republic Bank Limited, the main programme sponsor for the ninth consecutive year. Republic Bank's contribution to WOW 2010 is a major part of the Bank's ongoing social investment initiative - "The Power to Make a Difference" - which has embraced an overarching vision of youth empowerment through education.



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THE UWI ALUMNI ASSOCIATION
(Trinidad & Tobago Chapter)





The *Cannabis sativa* plant has had a long, colourful and often controversial association with mankind. Originally cultivated to make hemp, a soft and durable fibre that was used extensively in the pre-industrial era for the production of rope, textiles and paper, it is also one of the oldest herbal remedies known to man, with texts from ancient China and India detailing its use as a treatment for a variety of illnesses. Even Queen Victoria of Britain is reported to have used it as a preparation for the treatment of menstrual cramps. Despite this wide variety of uses and its extensive commercial production (up to today over 40,000 hectares of hemp are under cultivation worldwide) cannabis is best known for its psychoactive properties and its association with recreational drug use (marijuana).

The Caribbean region, rightly or wrongly, has anecdotally been associated with the use of cannabis for such hedonistic purposes. The stereotypical image of a Rastafarian resplendent with 'joint,' as often personified by Bob Marley, is an iconic image of supposed Caribbean life. Those of us who live and work in the region know this demographic grouping actually represents the minority and best estimates of regular cannabis use are less than ten per cent.

The smoking of cannabis can produce a number of effects on the human body including disordered perception relating to sights, sounds, touch and even time, short-term memory loss and disruption of learning, a sense of mild euphoria and a feeling of tranquillity, anxiety, loss of motor skills, increased heart rate, pain relief, dry throat and mouth. This list is by no means exhaustive, and for decades, scientists have been intrigued by how this plant could have such a wide and varied response on so many different physiological systems. Research over the last 40 years has begun to answer this question and in particular, discoveries since 1990 have exponentially increased our knowledge and understanding of cannabis, how it works and what effects it has on the human body.

This new era of understanding began in 1964 when the primary active ingredient of cannabis, delta-9-tetrahydrocannabinol (THC) was identified. Advances in cannabinoid physiology proceeded slowly over the next two decades but of note during this period was the contribution made by two Caribbean scientists, Manley West and Albert Lockhart. West and Lockhart started their journey in cannabinoid research when they noted (i) a reduction in glaucoma among Rastafarians who traditionally used cannabis and (ii) persons from rural communities who used eyewash purportedly derived from cannabis claimed improved eyesight. This triggered ten years of pioneering research that culminated with the development and patent of a drug, Canasol, for the treatment for glaucoma.

In 1990, cannabinoid research really took off when the first THC receptor in the brain was discovered. Very soon afterwards another receptor was identified and scientists believe there are at least two more cannabinoid receptors still waiting to be fully characterized. Perhaps more fascinating though was the discovery two years later that the brain produces neurotransmitters itself that do the same thing as THC. In other words the brain produces its own 'cannabis-like substances'. The most common and first discovered

was named anandamide, derived from the Sanskrit word ananda meaning bliss. These naturally occurring substances produced by the body are called endocannabinoids. Together with their receptors they form the framework of a complex endocannabinoid signalling system which is found in many regions within the central nervous system and in a number of important peripheral tissues.

Given the widespread and complex nature of this cannabinoid system it is not surprising that it has been implicated in a number of physiological processes including learning and memory, regulation of appetite, immune function, regulation of pain and activation of neuroprotective pathways. Knowledge of these processes and how they can be manipulated is important as they offer novel forms of intervention in diverse clinical scenarios. At this point it should again be noted that researchers do not advocate the imbibing of cannabis, via smoking or otherwise, as an effective clinical intervention. What is being considered though, is targeted drug delivery systems through the development of specific compounds that minimize unwanted side effects and maximize clinical benefits. Some of the more interesting and relevant findings to date are detailed below.

Modulation of Pain

Cannabis, controversially, has long been used to treat intractable pain. In fact cannabinoids have been shown to be ten times more potent than morphine in some models of pain. Emerging evidence from clinical trials suggest there is much potential in the use of these compounds although not all studies show a clear benefit. Indeed in 2005 the drug Sativex was approved in Canada as a prescription medicine for the treatment of pain associated with cancer and neuropathic conditions. Sativex contains both THC and its inactive counterpart cannabidiol and is currently available in over twenty countries worldwide. While results are promising, it should be appreciated that effective therapeutic doses in humans still result in too many side effects, mandating more targeted application of cannabinoids be achieved.

Appetite

One of the more remarkable effects of cannabinoids is their ability to influence appetite by regulating a number of important brain regions linked to food intake. These include the hypothalamus (regulates the consumption of food) and the reward centres of the brain (when activated these give us the sense of pleasure associated with eating). This data has resulted in a number of clinical trials with a compound that blocks cannabinoid receptors called rimonabant. Rimonabant was tested as an anti-obesity medication, initially found to be highly successful and eventually licensed within the European Union. Due to the number of side effects, the medication was never approved in the United States and was eventually removed from use among European Union countries. Yet the evidence is such that several drug companies continue to invest heavily in this aspect of research.

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CANNABIS UNMIA

What it is and why

BY DR FARID



CANNABIS RISKED

it does what it does

F. YOUSSEF



Learning and Memory

The adverse effects of smoking cannabis on memory have been repeatedly seen in chronic users. It is now generally agreed that cannabinoids can modulate short-term memory but have minimal impact on long-term memory. Impairment of memory represents one of the side effects that must be avoided when utilizing cannabinoids. However, there may be a potential role for cannabinoids in Alzheimer's disease and this is emerging as a new and promising area of research.

Immunological Function and Multiple Sclerosis

One of the very earliest accounts of the activity of cannabis from ancient China highlights its ability to attenuate rheumatism and thus its anti-inflammatory properties. These effects on the immune system have perhaps been best harnessed in the treatment of multiple sclerosis (MS). MS is a chronic autoimmune disease in which there is inflammation within the central nervous system. In particular there is an attack upon the fatty sheath that insulates brain cells leading to progressive motor and sensory deficits often accompanied by pain of varying severity. To date results have been mixed but encouraging enough to suggest that cannabinoids do have a role to play in the management of the symptoms of MS. Beyond managing symptomology efforts are underway to determine whether or not cannabinoids can actually slow disease progression.

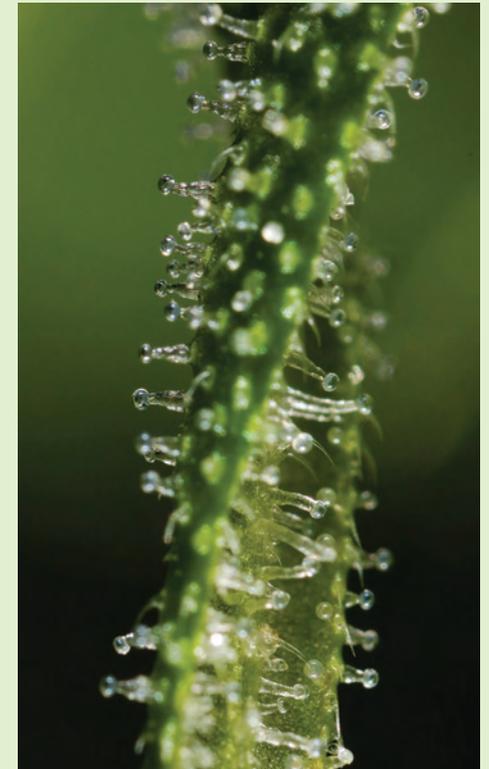
Endocannabinoids and Neuroprotection

Given the ubiquitous nature of cannabinoid receptors in the brain they have widely been viewed as a fine-tuner of neuronal function. Connected to this has been the suggestion that the endocannabinoid system offers a means of neuroprotection against a variety of different insults and pathological processes. This is a vast area of research including efforts to modulate damage due to strokes, Alzheimer's disease, Parkinson's disease, head injury and trauma.

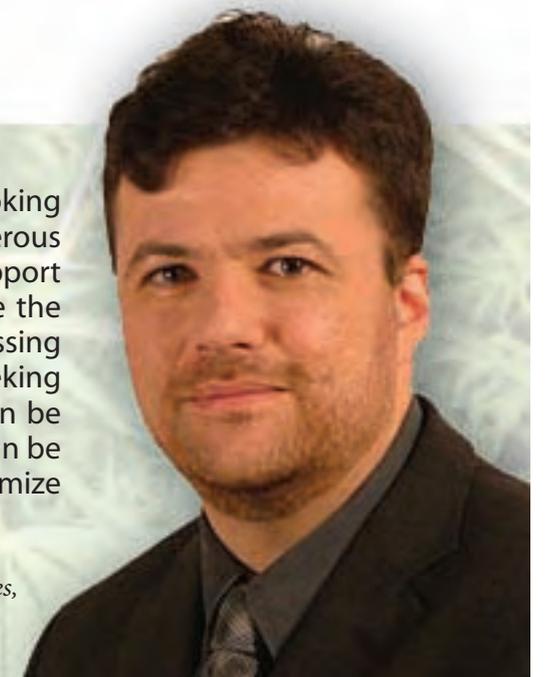
In conclusion, our understanding of cannabinoids has dramatically increased within the past 20 years. This understanding has shed new light on the numerous processes in which endocannabinoids are involved and offered new vistas for modulation of these same processes. Despite the tremendous advances that have been made, successful interventions have yet to be fully elucidated. This is the 'holy grail' of cannabinoid research, the ability to develop compounds that disentangle the benefits of cannabinoids from their pitfalls and psychotropic side effects. Until this is done, the full potential of harnessing this system remains locked away, though results to date provide ample incentive for those currently working in the field.

"I am in no form or fashion advocating the smoking of cannabis, a practice that is associated with numerous well documented severe health risks. Neither do I support its legalization. However the effects of cannabis are the result of the body, and the brain in particular, possessing its own endogenous cannabinoid system. We are seeking to understand this system, how it works, how it can be modified and how targeted drug delivery systems can be developed that maximize clinical benefits and minimize unwanted side effects."

Dr. Farid F. Youssef is a lecturer, Department of Pre-Clinical Sciences, Faculty of Medical Sciences, UWI, St. Augustine Campus.



A new era of understanding began in 1964 when the primary active ingredient of cannabis, delta-9-tetrahydrocannabinol (THC) was identified. Advances in cannabinoid physiology proceeded slowly over the next two decades but of note during this period was the contribution made by two Caribbean scientists, Manley West and Albert Lockhart. Based at UWI's Mona Campus, West and Lockhart started their journey in cannabinoid research when they noted (i) a reduction in glaucoma among Rastafarians who traditionally used cannabis and (ii) persons from rural communities who used eyewash purportedly derived from cannabis claimed improved eyesight. This triggered ten years of pioneering research that culminated with the development and patent of a drug, Canasol, for the treatment for glaucoma.



RESEARCH



AGENT CANNABIS

Natural Mystic

BY PROFESSOR
GERARD HUTCHINSON

with research by *Chrisl Thomas*



Cannabis has long been a potent symbol of rebellion for adolescents and young adults. It is the most commonly used illicit drug and controversy has always followed its use in contemporary Western society. This is partly due to its illegality but also because of its alleged medicinal effects and its use as a symbol of resistance to the oppressive nature of legal authority in these societies.

Interestingly though, a 2006 British Journal of Psychiatry report from the Netherlands where there are far more liberal laws with regard to its use, suggests that adolescents who regularly use cannabis are more likely to be aggressive and delinquent compared with peers who do not engage in regular use. Regular alcohol use was a confounding factor however, suggesting that regular psychoactive substance use may be a marker for aggression and delinquency in adolescence. A survey among COSTAATT (College of Science, Technology and Applied Arts of Trinidad and Tobago) students found that approximately 44% use psychoactive substances as a means to deal with stress.

The consecration of cannabis by Rastafarians and the evangelical defence of its use by universally popular Jamaican reggae artists like Bob Marley and Peter Tosh, and even Trinidad and Tobago's Marlon Asher have served to legitimize and celebrate it. This in turn has contributed to the persistent debate about legalizing and/or decriminalizing its use.

In ancient Indian and Chinese literature, cannabis was referred to as the sacred grass, used through centuries for medicinal and, presumably, its psychoactive properties. It only became illegal in the 20th century and there are various theories about what led to this designation driven by the ethos of a repressed pseudo religious morality. One of the postulated theories also suggests a socioeconomic agenda to disadvantage the developing countries where it is predominantly grown, but this requires more extensive study and it is surprising that more has not been written about it.



In Trinidad and the Caribbean, it was introduced by the indentured migrants from India who used it in medicinal and religious rites. It remained legal until the 1950s.

It is said to have medical benefits in asthma, glaucoma and for treating intractable pain in terminal cancer patients and there is some research literature to support its use in these contexts, though mainly as derivatives. This has led to the legal availability by prescription in some states of the USA and in Canada for these purposes. Part of the problem with its illegality is the variability in purity and quality dispensed by its street dealers.

Its active psychoactive ingredient is delta-9-tetrahydrocannabinol (THC) and the medicinal varieties are clear about the amount and nature of the psychoactive constituents.

Like any other drug, it is not harmless. A recent review in Australia found that early initiation and regular use led to impaired mental health, lower educational achievement, risky sexual behaviour, delinquency and criminal offending. Recent studies in the USA suggest that teen use of cannabis predisposes to later depression in adulthood, a finding which has also been reported from Trinidad and Tobago. It is also associated with psychosis and schizophrenia, particularly first episode psychosis. In Trinidad and Tobago, at least three studies have confirmed that between 40-60% of first-admission cases for psychosis are related to cannabis use, particularly for males.

Another recent report from Britain suggested that high potency cannabis use was more likely to be associated with psychosis, especially in those who were daily users and had been using for over five years. The emphasis here is on the high potency, implying that the greater the presence of THC the greater the risk of psychosis as a result of use.

This vulnerability to developing psychotic reactions to cannabis seems to be a function of the genes we inherit for the enzyme (Catechol-O-Methyl Transferase: COMT) which breaks down a certain group of chemicals in the brain called catecholamines. There are two amino acids that code for this gene and if you have the mixed methionine and valine polymorphic allele you are more likely to develop psychosis when exposed to THC. In other words, your predisposition for developing psychotic reactions to cannabis is dependent on the amino acid variant

combination you have inherited.

Evidence now suggests that it does have some addictive potential because it does stimulate the release of dopamine in the brain. The release of dopamine in particular areas of the brain is thought to be the final pathway to the development of addiction. The review from Australia noted that 10% of regular users would become addicted to the drug, perhaps another illustration of a genetic predisposition. This is less than for other drugs like cocaine and heroin but similar to alcohol.

It has long been associated with an amotivational syndrome which suggests that regular users lose their initiative and drive and tend to withdraw from active participation—and therefore contribution—to society. They spend most of their time smoking or seeking out cannabis. This may be the way addiction expresses itself.

Still cannabis continues to be used and it is likely that it has been used since antiquity, a point reinforced by the presence of cannabinoid receptors all over our bodies, including our gastrointestinal system. This partially explains why its use sometimes alters the eating behaviour of the user.

A variety of sensory experiences are enhanced by its use including body awareness and time dilatation. Sexual reactions may also be enhanced which is another incentive for use. Interestingly these are more powerful for women, while long-term use in men seems to diminish erectile functioning.

Andreas Zimmer and his colleagues in Bonn have also demonstrated that the body produces endocannabinoids which are important in the mediation of allergic, inflammatory and pain responses. This in part explains the medical uses of cannabis, which include treatments for glaucoma, vomiting, pain in cancer and HIV positive patients, and increasing appetite in those who are anorexic. There is active research trying to identify agonists and antagonists to these endogenous cannabinoids in order to generate a range of positive medical effects in many chronic diseases where there are intractable symptoms in the areas of pain relief, allergies and chronic inflammatory conditions.

The cannabinoid system is also a key mediator in the neurochemical mediation of fear and anxiety. The endocannabinoid system is a key modulator in the stress response pathways in the brain and is also involved with energy balance. When cannabis induces relaxation and a feeling of euphoria or well being, it is a function of its feedback relationship with the regulators of this system. However, in some users it paradoxically induces panic attacks, and this response may be genetically mediated.

These all indicate that like any other substance, there are both positive and negative issues related to its use but that some regulation and monitoring of its production and distribution is likely to be beneficial.

Prof Gerard Hutchinson heads the Department of Clinical Medical Sciences at the Faculty of Medical Sciences, The UWI, St. Augustine Campus. Chrisl Thomas is a postgraduate student.



Unlocking



Caribbean



Potential

As the Caribbean's largest and longest-standing tertiary institution, **The University of the West Indies** is the recognised leader in scholarship.

Backed by a 60-year tradition of excellence, The UWI is a sought-after partner in the delivery of undergraduate and graduate programmes, and cutting-edge research.

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“Internationally recognised as a centre of excellence on research and teaching related to the Caribbean.”

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UWI

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UWI is the primary source for teaching, research and expert advice on complex issues and challenges facing the region and international community such as:

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HIV/AIDS Prevention and Management
Information and Communication Technology
Justice and Security

Poverty Reduction/Eradication
Public Health
Small Island States
Trade and Sustainable Economic Growth

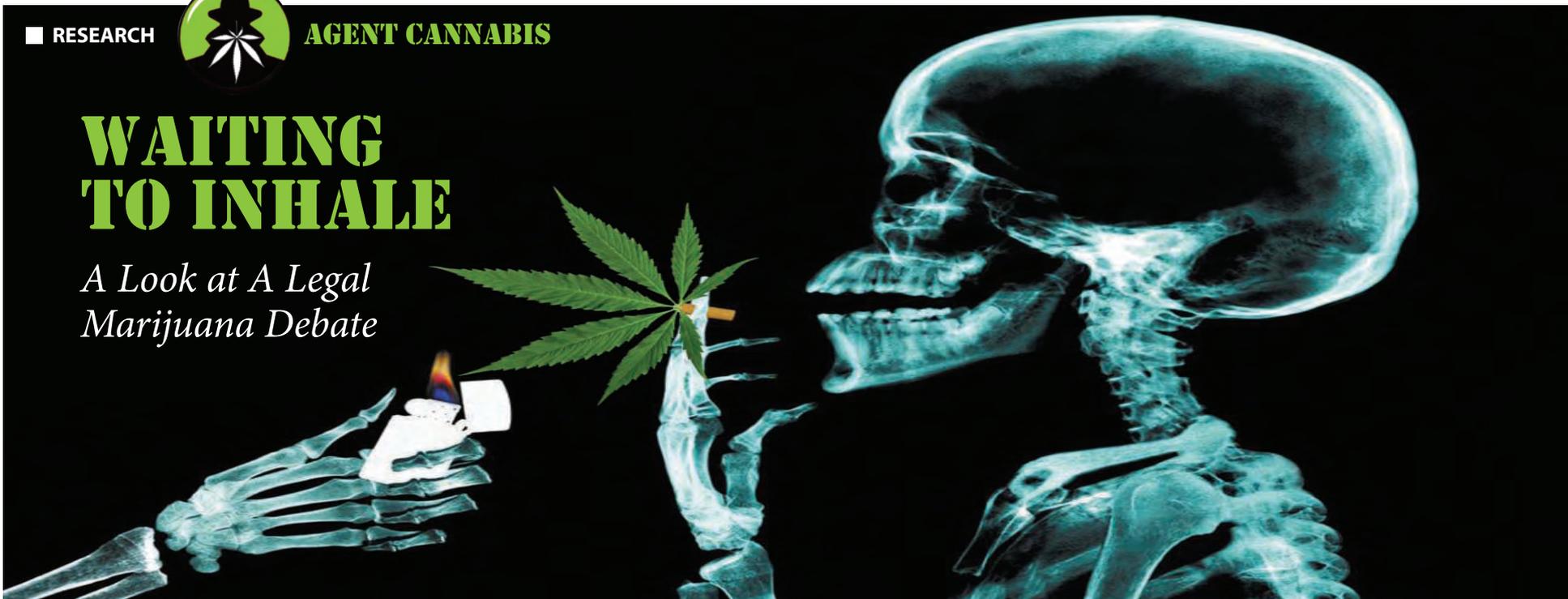
RESEARCH



AGENT CANNABIS

WAITING TO INHALE

A Look at A Legal Marijuana Debate



BY DR. SANDRA REID



By whatever name—ganja, marijuana, weed—smoking cannabis sativa is illegal in Trinidad and Tobago. Classified as a dangerous drug, marijuana is included in the First Schedule list of narcotic drugs. Under the Dangerous Drugs Act, possession of any quantity is an offence liable upon summary conviction to a fine of \$25,000 and to imprisonment for five years; and upon conviction on indictment

to a fine of \$50,000 and to imprisonment for between five and ten years.

Marijuana users experience the mind-altering effects of tetra hydrocannabinol (THC), the active chemical found in the cannabis sativa plant. Reports describe sedation, euphoria and heightened perceptions. The psychoactive effects of THC are not neatly classified though, and include hallucinogenic, stimulant and depressant actions.

Many consider the Act too punitive, arguing that it subjects ordinary people to criminal punishment for innocuous behaviour. Their argument is that maintaining the classification of marijuana as an illegal drug may result in unnecessary incarceration resulting in a permanent legal record, especially harsh for young people who may run afoul of the law during a period of short-lived experimentation. To them, this wastes valuable law enforcement resources, which at the extreme are expended in the unsuccessful war to eradicate the production of marijuana and dry up the supply of the drug. Dissenters suggest that the criminalization of marijuana deprives people of its ascribed medicinal benefits.

Decriminalization of marijuana use would entail the removal of prohibitions on the possession of small, specified quantities of the drug for personal use. Decriminalization may also be restricted to the use of specific amounts for medicinal purposes only. Legalization of marijuana use goes further and calls for the legal distribution of the drug, which then becomes as readily available as alcohol or cigarettes.

A recommendation for the decriminalization of marijuana begs the question – will the ills of strict prohibitions be replaced by the harm of increased use?

Rigorously conducted medical research has confirmed a number of adverse health effects as a result of regular marijuana use. Higher rates of chronic lung disease, respiratory infections and pre-cancerous changes in the lungs occur in smokers of marijuana. A June 2009 study from the University of Leicester (reported in the journal *Chemical Research in Toxicology*) suggested that marijuana

smoke may be as harmful, or perhaps even more toxic, than tobacco smoke. Smoking three to four marijuana cigarettes a day was reported to cause as much airway damage as smoking 20 or more cigarettes a day. Another recent report from the Fred Hutchinson Cancer Research Center in Seattle linked marijuana use to testicular cancer, especially among those who began smoking before the age of 18.

“Just being a marijuana smoker seemed to carry a 70% extra risk, while those who smoked it regularly, or had smoked from an early age, had twice the risk compared to those who had never smoked it,” stated the report.

Harvard University researchers in March 2000 reported that the risk of a heart attack is five times higher than usual in the hour after smoking marijuana, (<http://www.news.harvard.edu/gazette/2000/03.02/marijuana.html>) while a Columbia University study (1999) found that a control group smoking a single marijuana cigarette every other day for a year had a white blood cell count that was 39% lower than normal, evidence of a damaged immune system which would make the user more susceptible to infection.

Surveys of driving under the influence of marijuana indicate a greater risk of accidents for users, as well as a greater risk of fatality. The presence of measurable levels of THC in the blood of drivers involved in motor vehicle accidents, in the absence of alcohol or other drugs has established marijuana intoxication in a causal role. This is consistent with documented short-term effects of marijuana use, which include distorted perception, loss of motor skills, trouble with thinking and problem solving, and decrease in muscle strength.

By far the biggest adverse consequences of regular marijuana use are the mental health consequences. Marijuana affects thoughts, perceptions, and information processing. Persons under its influence display diminished capacity to learn and recall new information. However, there is no definitive evidence that heavy long-term marijuana use permanently impairs memory or other cognitive functions.

The risk of addiction to marijuana is relatively low compared with other psychoactive drugs but the reality of marijuana addiction is scientifically supported by the occurrence of loss of control over use, tolerance to the psychoactive effects, associated hazardous outcomes associated with use and the occurrence of withdrawal symptoms, most commonly irritability, sleep disturbance, nausea and anxiety, on stopping or reducing use.

Studies consistently show an association between chronic marijuana use and the development of marijuana psychosis, depression, bipolar disorder and panic attacks. The link between marijuana use and schizophrenia has been documented in many scientific studies. A 2002 report in

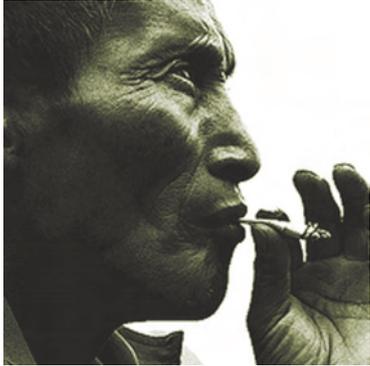
the *British Medical Journal*, among 50,000 members of the Swedish army, found that heavy consumers of marijuana at age 18 were over 600% more likely to be diagnosed with schizophrenia over the next 15 years than those who had not smoked. It is estimated that between 8% and 13% of all cases of schizophrenia are linked to marijuana/marijuana use during teen years. The risk is particularly great among those young people who possess a genetic high risk (positive family history) for schizophrenia.

While the adverse effects of marijuana have been scientifically established, there is less evidence to support the medicinal value of smoked marijuana. Anecdotal reports abound on its effectiveness in reducing the nausea induced by cancer chemotherapy, stimulating appetite in AIDS patients, reducing intraocular pressure in people with glaucoma, relieving pain, and reducing muscle spasticity in patients with neurological disorders. Anxiolytic, antipsychotic, antispasmodic, antiemetic, antiepileptic, antioxidant, analgesic and anti-tumor properties have all been reported but mostly relate to the use of synthetic cannabinoids or marijuana-based medicinal extracts. These studies for the most part do not assess smoked marijuana, have failed to compare marijuana with alternatives or viable treatments, and claims of therapeutic effectiveness are not based on the results of controlled scientific studies. Following a comprehensive study (*Marijuana and Medicine: Assessing the Science Base*, 1999), the Institute of Medicine acknowledged the potential therapeutic value of cannabinoid drugs but found little reason to recommend crude marijuana as a medicine, particularly when smoked, since smoking created risks that would not exist from other forms of delivery. They concluded that the active ingredients in marijuana could be developed into a variety of promising pharmaceuticals and recommended that research continue to look at the efficacy of THC for medicinal purposes. Such research has determined that dronabinol (Marinol) is a safe and effective treatment for nausea and vomiting associated with cancer chemotherapy, and a treatment of weight loss in patients with AIDS. Marinol is a synthetic THC drug which does not produce the harmful health effects associated with smoking marijuana. Initial enthusiasm for THC as an antiemetic or to reduce intraocular pressure has waned with the advent of new medications that provide superior medical benefits with fewer adverse effects. Do the potential benefits of legalizing or decriminalizing marijuana for medicinal use outweigh the risk of increased use in the society?

Dr Sandra Reid lectures in Psychiatry at the School of Medical Sciences, Faculty of Medical Sciences, UWI, St Augustine Campus.



To get a better understanding of the points made by **Dr Youssef** and **Prof Hutchinson** that the body produces endocannabinoids and has cannabinoid receptors at various points, and that a variety of sensory experiences are enhanced by its use—including body awareness and time dilatation—*five cannabis users were asked to describe their sensations (the images are not the subjects).*



FLEX: Has been smoking for 16 years. Smokes five or six times a day



FIX: Has been smoking for eight years. Smokes twice a day



PANDA: Has been smoking for four years. Smokes once or twice a day



BEE: Has been smoking for a year and eight months. Smokes three or four times a week



MUKESH: Has been smoking for a year. Smokes one a day

HOW DOES WEED AFFECT YOU?

FLEX: Well first off, you have to understand the different types of high yuh does get with weed. You have body high or what you call a body stoned, where you smoke and you feel lazy. You just want to lie down. You get that sleepy vibe, you understand? Thas a body stoned. And then it have a mental high where you just irie. It kinda hard to describe. Some people expect ... (He tilts his head and sticks his tongue out the side of his mouth, making a dim-witted expression to show what he means.) It aint nothing like that dred, yuh understand? Yuh in that zone where yuh just...

FIX: Relaxed

FLEX: Yeah. Now you'll have the same stress, but somehow you'll think it through and you'll see a solution. You'll realise that it's just to put it into gear and get on with things. Whereas when you not high, everything is just gloom and doom.

FIX: Everything seems clearer. But if you have a lot on your mind, you probably study it more. You in deep concentration bout that.

PANDA: Sometimes it does make you start to think and wonder. You block out everything else and just think about one particular thing. But that one particular thing does bring up a whole set of questions. Real tings does go through your head.

FIX: Sometimes you smoke a weed and you get paranoid. You feel jittery. But I believe that stage over for me. I started to smoke in school and I used to get paranoid to the point where every time I come home from school, I takin off my jersey and airin it out, tryin not to smell smoky.

MUKESH: I get real paranoid. I could reach home an hour from now and I will still tell myself I smellin of weed and I doh really want to pass close to anybody. I just run in my room and change my clothes.

FIX: I believe if you dwell on something that will make you paranoid, you will get paranoid. You will. Because your mind does be on it and when you on weed, you get stupid.

FLEX: Different times create different zones. Weed at times can be an aphrodisiac. You smoke with yuh chick and you find allyuh eyes lean the same way and you start watching one another.

FIX: Weed makes sex feel good.

BEE: Because you feel more relaxed. It's not like it feels better or anything, but the process is just more fun I guess. I always want to have sex when I'm high.

FIX: Ganja makes it all better: food, conversations. People you can't have a conversation with dred, yuh could smoke a weed with them and realise – aye, he not makin any sense, but I high. Yuh understand? The ideas behind conversations when yuh high dred, does be different. Yuh doh study stupidness.

FLEX: Your tolerance level is more too. You're more tolerant about it because you just tend to brush everything off. Whereas when you not high and you find a man tell you sometin – well doh talk bout if yuh drink – is bacchanal!

FIX: Yuh understand? As de man was sayin, different weed different head.

FLEX: If I in a dance, I'll smoke 10,000 weed, well thas an exaggeration, but I could never really say I get high, yuh understand? But watchin TV. Yeah, weed and TV go together real good with me. You would watch the same show when you not high and then watch it when you high and really notice stuff and hear stuff that you weren't aware of. Your awareness kick in nah, you know what I mean?

BEE: I love to read when I high. I get so immersed in the story it feels like I'm a part of it, like I standin up right next to the characters when all the action happens. I'm a part of their conversation, you know? Like I can hear their words and see their expressions instead of just reading it off of the pages.

FLEX: Some people like weed and music. Me? I like meh blunts while I vibesin meh songs. Before I write I try to find that creative zone and it does really put me there. When I learnin an

instrumental, I blaze a couple and let the creative juices flow. Weed does that. A lot of songs (he points at himself proudly) thanks to weed. You could listen to the same music but that music gives you a different vibe, you could hear things in the music that you would never hear before because you in that zone where you could really concentrate.

FIX: Stoned. Thas the easiest way to put it – stoned.

BEE: But, not just stoned. Like when I feelin real tired and stressed out, weed makes me calm. My mind would be all over the place, because I'd have a million things to do and I'll struggle to finish them all at the same time and feel like I not gettin anywhere. But, if I smoke a weed, it'll calm me down and help me to focus on just one thing.

PANDA: Well it could depend on your mood too eh. Sometimes you get real happy dred and yuh's jus be in a zone and everything does jus be funny. (He recalls a wedding he attended recently.) I sit down in the back eh, and everybody quiet while they sayin their vows and ting. And I start to laugh horse! Serious. I sit down there and start to laugh. People was watchin me and wonderin what I laughin for. Dat ting keep me high for de whole day!

FIX: For me, everytime I smoke weed I does get munchies. But probably not right away. I will be out a de house limin and from the time I reach home I does want to eat out everyting in the place. Munchies is a normal ting.

BEE: Yeah. If it's one time I get hungry, it's when I high.

FIX: People tend to think that weed makes you stupid. That weed smokers ... they doh have a life. But it not like that. We smoke and we get a vibe yo. It don't make me a different person. When I smoke weed I doh want to go and rob or shoot nobody. I just want to be around the people I care about and just be in that vibe. And that vibe brings out who you really are, because everything tends to be relaxed dred, you talkin and you free. The stress of life, whatever you thinkin bout, does subside yo. Everything ... life seems sweeter.

RESEARCH

PARTNERSHIP TRAINS ONCOLOGY NURSES



Working with McMaster Health Sciences Library librarian Laura Banfield (second from left) are students of the University of the West Indies' School of Advanced Nursing Education (from left), Shirley Benjamin, Paula Washington, Darron Singh and Kathy Ann Graham. The three-year post-diploma, BScN-linked Oncology Nursing Program in Trinidad was developed in a partnership with McMaster University's School of Nursing.

As a nurse, Shirley Benjamin always wanted to specialize in the care of cancer patients, a passion fueled by observing how many health professionals in Trinidad and Tobago left their needs unmet.

Her passion for finding better ways to improve care led her to enroll in a three-year post-diploma, BScN-linked Oncology Nursing Programme in Trinidad developed by McMaster University's School of Nursing in partnership



Students of the oncology nursing programme of the University of the West Indies' School of Advanced Nursing Education, Kathy Ann Graham, Paula Washington and Shirley Benjamin work in the McMaster Health Sciences Library.

The goal of the capacity-building programme is to prepare Trinbagonian nurses for leadership roles in cancer care nursing in Trinidad and Tobago where cancer is a significant health problem among its 1.2 million population.

with the University of the West Indies (UWI's) School of Advanced Nursing Education (SANE).

The goal of the capacity-building programme is to prepare Trinbagonian nurses for leadership roles in cancer care nursing in Trinidad and Tobago where cancer is a significant health problem among its 1.2 million population. The programme builds on an earlier eight-month experience in 2001 when 12 Trinbagonian nurses participated in McMaster's on-site oncology nursing programme and became "formidable advocates" for nursing and cancer care in Trinidad and Tobago.

Over the past three years, the programme was delivered at SANE through a blend of face-to-face and distance learning. At the start and end of each semester, McMaster faculty traveled to Trinidad for two weeks to teach. For the balance of each semester, McMaster faculty taught from Hamilton.

For the past month, Benjamin and three of her nursing colleagues have been at McMaster where they have been exposed to the latest advances in cancer treatment along with first-hand experience in advanced patient care.

The oncology programme has received high praise from senior government and nursing officials in Trinidad as well as the nurses themselves.

Dr. Terry Mason, an oncologist and public health commissioner in Chicago, described the programme as "a model for the rest of the world." Dr. Meryl Price, director of SANE, said it "signals a new level of nursing in Trinidad and Tobago."

Carolyn Ingram, an associate professor in the School of Nursing and project co-ordinator, said the nurses strongly value the programme and say it "will be tremendously valuable in advancing their own practice and improving cancer care delivery in their country."

Paula Washington, one of the Trinbagonian nurses, said the programme opened up oncology in a new way to her by "changing my interactions with my patients, my children and my family."

McMaster's involvement in the project is completed. In keeping with its capacity-building goal, The University of the West Indies will now assume full responsibility for the programme and continue to run it independently this fall.

TWO NEW MEDICAL PROFESSORS

The UWI Finance and General Purpose Committee has endorsed the promotion to the rank of Professor of two members of the academic staff at the UWI St Augustine Faculty of Medical Sciences. **Dr Harrinath Maharajh**, Senior Lecturer in the Department of Clinical Medical Sciences, and **Dr Michele Anne Monteil**, Senior Lecturer in the Department of Para-Clinical Sciences, have been promoted to the rank of Professor, with effect from May 19th, 2010.

"I am delighted to be promoted to the rank of Professor and I wish to thank The University of the West Indies for conferring this singular honour. I would also like to extend my gratitude to the Dean and colleagues at the Faculty of Medical Sciences for their continued support," said Dr Monteil.

Dr Monteil has taught Immunology to a generation of medical students. She has also



Dr Michele Anne Monteil

provided a weekly outpatient Immunology and Allergy clinic at the Eric Williams Medical Sciences Complex. She continues to participate in research and publishes articles in the peer-reviewed medical literature. Her research group has conducted a survey of allergic

asthma, rhinitis and eczema among over 8,000 school-aged children in Trinidad and Tobago. Their data have contributed to the International Study of Asthma and Allergy in Childhood. She has an ongoing interest in the effect of ethnicity on the expression of clinical diseases such as asthma and dengue virus infection, where the patient's ethnicity is associated with difference in clinical expression. She is also part a multi-institutional collaboration on the potential health impact of Saharan dust clouds on Caribbean populations.

Dr Maharajh, who was awarded the Chaconia Gold Medal in 2000 for his outstanding



Dr Harrinath Maharajh

contribution in the field of Medicine, described himself as "very people-focused" and said that his greatest achievement has been the opportunity to serve the community that nurtured and educated him. He enjoys teaching and is dedicated to the

instruction of students at all levels. He has lectured extensively abroad, and has several publications in reputable international magazines and is the author of two textbooks, "Neurology for Students" and "Social and Cultural Psychiatry: Experiences in the Caribbean."

RESEARCH

UWI Students win MIT TECHNOLOGY INNOVATION AWARD



The UWI NextLab Team. Top, left to right: Kevon Andrews, Tremayne Flanders, Kim Mallalieu, Mark Lessey, Ravi Deonarine. Bottom, left to right: Candice Sankarsingh, Yudhistre Jonas

A four-member team comprising two students from The University of the West Indies (UWI) Department of Electrical and Computer Engineering has won the Massachusetts Institute of Technology (MIT) NextLab Award for Excellence in Technology Innovation. UWI students Mark Lessey and Yudhistre Jonas, along with two students from MIT's Sloan School of Business, won the Innovation Award, one of three awards issued at MIT on Tuesday 11th May, 2010.

"I feel privileged to have had the opportunity to participate in the experience and am exuberant over the success of all UWI participants, most notably Mark and Yudhistre who were members of the winning team," said an exuberant Dr. Kim Mallalieu, Head of the Department of Electrical and Computer Engineering and local Team lead.

The UWI students and their MIT counterparts won the NextLab Award (<http://nextlab.mit.edu>) for the development of a mobile phone application that tracks package and courier activities and displays package locations on maps in real time. The winning mobile application was conceptualized, designed and developed by the UWI team members while their MIT counterparts developed the business case and managed the project.

The award ceremony, which took place on MIT's Campus in Cambridge Massachusetts, was attended by industry representatives and sponsors including Google, Estafeta, Inter-American Development Bank, Medullan, SANA and MIT Media Lab. The ceremony was the culmination of the semester-long NextLab 2010 course, which focused on the application of Information and Communication Technologies for Development (ICT4D). The course was delivered live by MIT to students in Cambridge, and via

weekly video conferencing to participants at UWI St. Augustine and the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) in Mexico.

"MIT's NextLab is a key model for the Next Generation of learning: inter-institutional, multi-disciplinary, collaborative, outcomes-based learning pivoted around solutions to real problems, and facilitated by virtual spaces and their enabling facilities," said Dr Mallalieu.

The Spring 2010 course focused on the global challenge faced by logistics and distribution networks at the base of the pyramid (BOP). Course participants contemplated and implemented components of a solution for the mobile phone in seven sub-challenges: Information Sharing, Marketing, Matching, Route Planning, Tracking and Tracing, Billing, and Platform Architecture.

The seven thematic areas were addressed by multi-disciplinary teams comprising UWI, MIT and ITESM participants. UWI team members, led by Dr. Kim Mallalieu, included Tremayne Flanders (Route Planning); Kevon Andrews and Ravi Deonarine (Matching); and Mark Lessey and Yudhistre Jonas (Tracking and Tracing). Over the course of the semester, components of the mobile logistics application were built using Google's Android operating system and cloud computing on a Service-Oriented Architecture (SOA) platform.

Dr. Mallalieu indicates that she looks forward to "continued collaboration between UWI, MIT and ITESM over the coming months, with pilot deployments of the mlogistics (mobile logistics) platform planned for Trinidad and Tobago and Mexico in 2011." The UWI NextLab Team thanks the International Development Research Centre (<http://www.idrc.ca/>) for its support of UWI's participation in NextLab.



UWI PERCUSSION ENSEMBLE'S FUND-RAISING CD PROJECT

The UWI Percussion Ensemble will be introduced to Trinidad and Tobago with the launch of their CD project, which features "light classical" music that audiences of all ages can enjoy. The CD's musical selection demonstrates the wide variety of instruments which the group hopes to continuously augment as they explore more traditional repertoire.

The UWI Percussion Ensemble was started in Semester I of 2003 with a set of instruments that arrived in a container when Wisconsin-born Dr. Jeannine Remy moved to begin her career at the Department of Creative and Festival Arts (DCFA) at UWI, St. Augustine.

The Ensemble consists of pitched and un-pitched instruments combined to give a potpourri of interesting percussive sounds.

Students of UWI are auditioned to join the UWI Percussion Ensemble, which currently acts as both an Ensemble and option for students matriculating in either the Music Certificate or BA Degree in Music Programmes, with percussion as the major instrument.

The group has performed at the Percussive Arts Society International Convention in Austin, Texas, USA, in 2008 as part of "The Rainmakers" Tropical Journey in Percussion and Steel.

The Director, Dr. Jeannine Remy lectures in Music at the DCFA. She teaches courses in Percussion, Steelpan (arranging, history, literature), World Music, and Musics of the Caribbean. Dr. Remy first visited Trinidad in 1989 as part of her doctoral research at the University of Arizona. She continues to be an active composer, arranger, adjudicator and musical commentator in cultural music. She has participated in Panorama competitions, and took Sforzata Steel Orchestra to win the Pan in the 21st Century 2010 final, at the post-Carnival competition.

The CD was recorded by SANCH Electronix in Daaga Hall, UWI, St. Augustine. Funds for the sales of the CD are to help offset the group's cost of performing as part of "The Rainmakers" entourage at the Percussive Arts Society International Convention in 2008.

The Cost of the UWI Percussion Ensemble CD is \$100. Additionally, persons interested in also owning "The Rainmakers" CD - Tropical Journey in Percussion and Steel- can purchase that double CD set at a reduced cost of \$100.

Orders can be placed DCFA, UWI
Tel: 663-2141 or 662-2002 ext. 3622/ 2510
or email Josette.Surrey-Lezama@sta.uwi.edu

UWI CALENDAR of EVENTS

JULY – OCTOBER 2010



Thursday 1 July to Sunday 4 July, 2010
Queen's Hall, St. Ann's, Trinidad

From the Egyptian wing of a modern museum to the dunes of ancient Egypt, AIDA centres on the emotional struggle of Nubian Princess Aida who is captured and enslaved during an Egyptian raid. Music provided by the National Sinfonia Rock Orchestra.

Show times: Thursday 1 July: 7pm, Friday 2 July: 7.30pm, Saturday 3 July: 7.30pm, and Sunday 4 July: 2pm and 7pm.

For further information, please call: (868) 462-0358 or (868) 316-7651, fax (868) 222-1745, or email info@mustcomese.com.

REFLECTIONS, RELEVANCE AND CONTINUITY
Saturday 18 to Sunday 19 September, 2010
UWI, St. Augustine, Trinidad

This year marks the 40th anniversary of the Black Power Movement in Trinidad and Tobago and this provides an opportunity to re-examine this period in our history and place it in a global context. The Department of History at The UWI, St. Augustine Campus, in collaboration with SALISES, CENLAC, local organizations and trade unions, will host this international academic conference, "Reflections, Relevance and Continuity."

For further information, please contact Jerome Teelucksingh, Department of History, UWI, St. Augustine, at jerome.teelucksingh@sta.uwi.edu.

CARIBBEAN LINGUISTICS
Monday 9 to Friday 13 August, 2010
UWI Cave Hill, Barbados

The Society of Caribbean Linguistics, in conjunction with The UWI Faculty of Humanities and Education, will host the SCL 18th Biennial Conference, to be held at the Amaryllis Beach Resort in Barbados. Scholars, students, educators, writers, and the general public are encouraged to participate. Sessions include presentations, workshops, colloquia, poster sessions, and plenary addresses.

For further information, please call Dr. Jo-Anne S. Ferreira at 868-662-2002, Ext 2035 or 3029, or e-mail her at Jo-Anne.Ferreira@sta.uwi.edu.



MANGO FESTIVAL
Sunday July 25, 2010
10am-6pm
University Field Station, Mt Hope

There is a lot to be had at this second edition of the day-long Trinidad and Tobago Mango Festival 2010. The day is full of activities meant to promote mango as a business enterprise, to teach people about the various features of mango life and to offer some tempting mango delicacies and fruit. It opens with a mango market, and then a presentation on how mangos are used around the world in various ceremonies. Just after lunch the formal part kicks in, and this includes a tea party. Admission: Adults \$10, Children over 12: \$5, Under 12: Free

For further information, please contact the Marketing and Communications Office at (868) 662-2002, ext 3635, or email at Jules.Sobion@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.



RELIGION IN THE CARIBBEAN
Thursday 16 to Saturday 18 September, 2010
UWI, St. Augustine, Trinidad

There has been considerable published research on religion internationally but insufficient work has been conducted in the Caribbean and Latin America. This conference, Religion in the Caribbean: Addressing the Challenges of Development and Globalism, hosted by the Department of Behavioural Sciences, UWI, seeks to fill that gap by bringing together scholars who have been doing research in this area.

For further information, please visit the conference website at <http://sta.uwi.edu/conferences/10/religion/>, or contact Rachel D'Arceuil, Faculty of Social Sciences, UWI, at 663-4968, or via email at Rachel.DArceuil@sta.uwi.edu.



CONFERENCE ON THE ECONOMY 2010
Thursday 7 and Friday 8 October, 2010
UWI, St. Augustine, Trinidad

The St Augustine Campus of The UWI is preparing to host its annual Conference on the Economy (COTE 2010) in October. COTE aims to highlight developmental issues facing the country and the wider Caribbean. Organized by the Department of Economics, Faculty of Social Sciences, COTE 2010 is open to decision makers, policy makers, technocrats, private sector representatives, academics, students and the general public.

For further information, please visit the official website at <http://sta.uwi.edu/fss/economics>, or please contact Joel Jordan, COTE 10 Secretariat Office at joel.jordan@sta.uwi.edu or (868) 662 2002, Ext. 3231, or contact Roger Mc Lean, Chair, COTE 10 Committee at Roger.McLean@sta.uwi.edu, or (868) 662 2002 Ext. 3055, or (Fax) 662 6555.