



The Mandate of The University of Trinidad and Tobago (UTT)

UTT was established in 2004 to expand tertiary education opportunities in areas integral to national development. The University's focus on learning and discovery in the fields of education, science, arts and technology is driven by its mandate to facilitate social and cultural growth, economic competitiveness and wealth generation. In pursuit of these objectives, UTT is being developed to be a world-class training institution with a significant innovation and development capability.



Our value system recognises that *Scholarly Excellence* must be constantly nurtured, while our operating philosophy is premised on the concept of *Excellence* – not as an end-point, but as a continuum of ongoing life-long learning and improvement.

VISION

The Vision of UTT is to be the National Institution of Higher Learning and Research for socio-economic and technological development that:

- (a) Inculcates in the graduates a set of overarching skills – metaskills – that help them navigate the new and emerging technologies in the national and global contexts, and
- (b) Through its R&D activities, brings and keeps Trinidad and Tobago in the vanguard of engineering and technology in niche areas of key importance, such as natural gas is to the nation.



MISSION

To be an entrepreneurial university designed to discover and develop entrepreneurs, commercialise research and development, and spawn companies for wealth generation and sustainable job creation towards the equitable enhancement of the quality of life of all individuals, families and communities of the Republic of Trinidad and Tobago and the Caribbean.

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President of the Republic of Trinidad and Tobago
and Chancellor of The University of Trinidad and Tobago
His Excellency Professor George Maxwell Richards, T.C., C.M.T., Ph.D.



The Honourable Christine Kangaloo
Minister of Science, Technology and Tertiary Education
Line Minister responsible for The University of Trinidad and Tobago.

1.0 | NOTICE OF SPECIAL MEETING (2008) OF MEMBERS OF THE UNIVERSITY OF TRINIDAD AND TOBAGO

NOTICE is hereby given that a Special Meeting (2008) of the Members of The University of Trinidad and Tobago is scheduled for **Wednesday 2008 November 19** at **10.30 a.m.** at the Boardroom, O'Meara Campus* for the following purposes:

Ordinary Business

1. Confirmation of Minutes of the Annual General Meeting held on 2008 July 03.
2. Audited Financial Statements and the Auditors' Report for the Period 2005 October 01 to 2006 September 30.
3. The Report of the Board of Governors.
4. The election of the Government's appointees to the Board of Governors.
5. Any Other Business.

Special Business

1. Revision of Fees for Members of the Board of Governors.

BY ORDER OF THE BOARD OF GOVERNORS



Corporate Secretary
2008 October 29

*The venue was changed to the Barataria Office, TTMA Building.



The Honourable Orville London
Chief Secretary, Tobago House of Assembly
at the Opening of the Tobago Gas Technology Conference 2008.

Introduction

The University of Trinidad and Tobago (UTT) was formally incorporated in September 2004 following the Government's decision for its establishment in May 2004. The Vision 2020 Draft National Strategic Plan, which explicitly stated the long-term development course of Trinidad and Tobago, was laid in Parliament in February 2006. This Plan is based on five Pillars to ensure the achievement of 'developed nation status' by Trinidad and Tobago on or before 2020.

These five Pillars are:

- 1) Developing Innovative People
- 2) Nurturing a Caring Society
- 3) Enabling Competitive Business
- 4) Investing in Sound Infrastructure and the Environment
- 5) Promoting Effective Government

A programme of detailed Action Steps to realise each of the Pillars was published in the Vision 2020 Operational Plan 2007-2010. Subsequently in 2007, **'The Transformation in Progress, 2007 Report'** (hereinafter the **Report**) was published as the first annual status report of the Government on the implementation of Vision 2020. It provides an account of the progress being made towards the achievement of specific targets identified in the Vision 2020 Operational Plan 2007-2010.

The **Report** reflects the current National Policy Agenda of the Government of the day which delineates a common, integrated framework for action by both the public and private sectors that coalesces around the five development pillars.

An assessment can be made with respect to the degree to which the efforts of UTT, through the establishment of its various Schools, Institutes and Academies (see sections 3 and 4 for its organisational structure), in its short life are aligned to these national objectives. In doing so, extracts of the **Report** will be reproduced as may be applicable to UTT, due regard being paid to the fact that only a small part of UTT's programmes is being highlighted in this Annual Report 2006: other programmes of teaching and research which are also similarly aligned will be presented in subsequent Annual Reports.

The Pillars

Pillar 1: Developing Innovative People

The **Report** says in part :

- i) "...The quality of our human capital is a key determinant in the achievement of the growth and development targets of Vision 2020. The objective is to create a large pool of highly skilled human resources that can adapt to changing work environments. The new workforce must have an aptitude for innovation and the assimilation and utilisation of sophisticated technologies and processes as well as a mix of managerial, entrepreneurial and research capabilities.... The University of Trinidad and Tobago (UTT), the Community College of Trinidad and Tobago (CCTT), and the Tamana InTech Park will be the main drivers of the innovation culture...";
- ii) "...The mainstreaming of science and technology in schools through universal use of Information and Communication Technologies (ICTs) is also being accorded high priority. The development of computer laboratories, the provision of multimedia facilities and Internet services and the inter-connection of school libraries are integral to the modernisation of the education system...";
- iii) "...The quality dimension of the education system is being addressed through continuous testing and assessment, teacher training, curriculum reform, international benchmarking initiatives...";
- iv) "...Developing innovative people is also being pursued through efforts to preserve our diverse cultural heritage and promote cultural products such as music, food, craft and the arts...."

With respect to i), the formation of UTT in 2004 was initially based on the foundations of the Trinidad and Tobago Institute of Technology (TTIT), an engineering training institution created by the Government in 2001. Since then, the array and level of engineering and technology programmes have grown to include postgraduate studies up to the Ph.D level. Section 9 illustrates the relatively large number of postgraduate students currently on board with respect to the engineering and technology streams.

On ii), UTT's capability in the ICT stream, falling under its School of Science, Engineering and Technology, is now established with several research projects on stream as section 9 demonstrates. UTT is only one of the national

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agencies – one other being Evolving Technologies and Enterprises Development Company Ltd (e Teck), involved in a coordinated effort in advancing the creation of the knowledge-based economy.

Regarding iii), the Government has mandated since 2005 that UTT, through its School of Cognition, Learning and Education, undertake teacher training, averaging an intake of 800 annually, leading to a four-year Bachelor's Degree (see section 5). This has had implications with respect to the required expenditures on physical facilities, notwithstanding the administrative transfers of the Valsayn and Corinth Teachers' Colleges under the umbrella of the University.

Item iv) is being addressed by UTT through a number of its arms. Its Academy for Arts, Letters, Culture and Public Affairs, which was established in 2005, undertakes public outreach programmes as well as cultural research through the recruitment of Research Fellows (see Section 6). UTT has established with effect from 2008 the Caribbean Academy of Fashion and Design (CAFD) to offer Diploma and Degree programmes in Fashion and Design (see Section 7). Additionally, the Academy of Performing Arts is soon to be fully functional with effect from September 2009.

Pillar 2: Nurturing a Caring Society

On this Pillar, the **Report** states in part:

- i) "...Vision 2020 puts people at the centre of the development process. Meeting the basic social needs of all citizens is a fundamental requirement for improving the quality of their lives... In terms of the youth population, special attention is being given to those deemed 'at risk', which include the unemployed and those who have dropped out of school...";
- ii) "...Community development programmes reinforce these family support initiatives by promoting positive values and fostering neighbourliness and harmonious living. Poverty reduction remains a major priority. The latest available data indicate that poverty fell considerably from 35.9 per cent in 1992 to 16.7 per cent in 2005. Many families suffer from the inter-generational cycle of poverty and several communities are under threat because of the high incidence of crime, inadequate basic amenities and the sense of despair among young people. To address these issues, short-term social support services... to move people out of poverty, especially through the provision of an expanded range of education, training...";

- iii) "...Health policy is geared towards promoting wellness and healthy lifestyles and ensuring access to quality health care services. While the emphasis continues to be on preventative, family-based health care at the community level, initiatives are also being taken to create Centres of Excellence in research and patient care at the tertiary level with assistance from Johns Hopkins Medicine International...."

UTT addresses the requirements of i) and ii) through the structured community programmes that are offered in particular by: a) its Academy of Sports and Leisure Studies, formed in 2006, which through the medium of sport, supported by its scholarship programmes, moves some of the nation's 'at risk' youth from the streets into an organised environment of learning; b) its Centre for Pre-University Programmes (PUP) and Foundation Courses, under the School of Cognition, Learning and Education, which takes in students, who may not have been fully successful at the GCE 'O' Levels or CXCs, into the classroom to eliminate that educational 'gap' and prepare them for entry into the Diploma Programmes of UTT. The PUP has already won international recognition – Getenergy Award 2008, London; and c) the National Institute of Higher Education, Research, Science and Technology (NIHERST), the outreach programme of which includes the implementation of the Service Learning (SL) Concept as part of the course curriculum of selected programmes. Section 13 gives some further details of these efforts.

Regarding iii), UTT currently contributes to the Health Sciences Initiative by coordinating the implementation of several projects being pursued in collaboration with the world renowned Johns Hopkins University and Johns Hopkins Medicine groups. As the contracting authority for the partnership since 2006, the Health Sciences Secretariat at UTT has developed relationships with the Ministry of Health and the Regional Health Authorities with a view to implementing several clinical programmes that will serve as models for the delivery of care. A cardiovascular services initiative has already commenced in collaboration with the North Central Regional Health Authority, and a diabetes outreach initiative is to follow shortly. Several academic and research projects are also being undertaken, most notably being the introduction of a Master's in Health Administration in 2007.

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Pillar 3: Enabling Competitive Business

On this Pillar, the **Report** states in part:

- i) "...The continued development of the energy sector will produce the resources for strategic investments in the non-energy sectors. The thrust will be to shift the focus of production to goods and services with high technology content. This will require an environment that promotes research and development (R&D) and facilitates the conversion of knowledge into high value, marketable goods and services. The establishment of the Tamana InTech Park and the UTT will be critical in this respect..."; and
- ii) "... New growth areas have been identified within the energy sector and in seven specific non-energy industries. In addition, new sources of wealth creation are being explored in the knowledge and technology intensive industries. The establishment of the International Financial Centre will spur the emergence of these industries. At the same time, efforts will continue to modernise the traditional areas of economic activity in agriculture, manufacturing and services so they too can drive innovation and new technology development. In addition, new business clusters will be developed through the collaborative efforts of the UTT and the Tamana InTech Park..."

"Trinidad and Tobago is rightly aiming at using energy resources to reach ambitious development goals before energy reserves are exhausted. Efforts are focused on creating conditions for the development of a vibrant and sustainable non-energy sector that can generate strong output growth in the event of a major decline in energy prices and/or ahead of the envisaged depletion of energy resources. Key to this goal is the transformation of the energy wealth into a balanced combination of external financial assets, and physical and human capital."

Source: Statement of an IMF Mission to Trinidad and Tobago, July 20, 2007

On i), sections 9 and 10 illustrate the intensive research efforts currently carried out by UTT on aspects of the energy sector chain: indeed, section 10 focuses on the research work of the Natural Gas Institute of the Americas (NGIA), a minor part of the portfolio of which includes the annual hosting of the Tobago Gas Technology Conference – an international forum for the presentation and discussion of developments in the Gas Industry.

With respect to ii), particularly as regards the

modernisation of 'the traditional areas of economic activity in agriculture, manufacturing and services', UTT has established the School of Science, Engineering and Technology which comprises a Centre for Production Systems. The primary responsibilities of this Centre are the areas of 'Entrepreneurship and Commercial Studies', 'Design and Manufacturing Systems', and 'Biotechnology, Agriculture and Food Production Technologies' (see section 4). Greater details of the perspectives and work of this School will be highlighted in a subsequent Annual Report.

With respect to the Tamana InTech Park in ii), the construction of UTT's flagship Campus at Tamana has commenced and is expected to be ready for its first intake of students by September 2011. The establishment of this Campus with physical proximity to eTeck at the Tamana InTech Park is one further building block in creating the knowledge-based economy.

Pillar 4: Investing in Sound Infrastructure and the Environment

On this Pillar, the **Report** states in part :

- i) "...Infrastructure has an important role to play in facilitating further economic expansion and improvements in social conditions. As a result, major investments are being made to modernise the infrastructure base in keeping with the demographic and spatial changes that have taken place over the past decade. ..."

In order to carry out its mandate, UTT, as section 13 shows, has had to accelerate the construction of four new Campuses – O'Meara and Chaguaramas (these two already in use), Tamana (expected completion late 2010) and Tobago (expected completion in 2012). In addition, extensive physical infrastructural expenditures have had to be incurred on some of the colleges/institutions transferred by the decisions of the Government under the umbrella of UTT. Total infrastructural expenditures as at September 2008 amount to TT\$0.5 billion (US\$1= TT\$6.30) with a further TT\$1.8 billion expected to be expended by 2012 (of which the Tamana InTech Campus would be TT\$1.0 billion).

The student population has moved from over 1,650 in 2004/5 to over 6,400 in 2008/9 and is expected to reach 12,000 by 2011.

Additionally, under the infrastructure and systems development component of the Health Sciences Initiative

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(TTHSI) umbrella, HDR Architecture Inc. has been retained to complete a master plan for services at a replacement Port of Spain General Hospital, as well as a feasibility study for a new central Trinidad hospital. Under this project, a national market analysis for services has been completed and, through the partnership with Johns Hopkins, personnel from the Johns Hopkins Hospital are also expected to assist with implementing a management systems pilot project at the San Fernando General Hospital.

The relevant technology infrastructure has also had to be installed at substantial costs with an expansive programme of implementation planned to be continued with effect from 2008/9 and related in part to the integrated 'wiring' of all Campuses, including the Tobago Campus.

Pillar 5: Promoting Effective Government

On this Pillar, the **Report** states in part:

- i) "...A fundamental requirement for achieving Vision 2020 is institutional transformation. As a consequence, a major reform strategy for the public sector is being developed. Already efforts are underway to reform the procurement system, improve public financial management and modernise the Central Statistical Office..."

UTT continues to refine its organisational structures and operating systems and procedures. Its governance practices are reflected in the appointment and operation since 2005 of the various sub Committees (inclusive of a Board Tenders Committee) of the Board; the establishment of the Executive Management Group in 2008 to assist the President in the day-to-day operations of the University; the continuing recruitment of top-level Academic staff to execute its training programmes; and its continuing drive in establishing and maintaining Alliances with institutions, including top-level Universities, in achieving its objectives (see sections 3 and 4).

The continuing obligation to satisfy the requirements of programme and institutional accreditation, inclusive of those pertaining to the Accreditation Council of Trinidad and Tobago (ACTT), ensures that the University's systems of academic quality and institutional control are periodically examined to comply with international standards.

Finally, institutional transformation is continuously fuelled by academic, professional and community feedback

to the University in the development, adaptation and implementation of its programmes through the mechanism of Advisory Councils, each of which is chaired by a Governor of the Board and the membership of which comprises leaders in their fields of endeavour. Currently, the Advisory Councils are focused, inter alia, in the areas of Energy, ICT, Manufacturing, and Maritime Studies (see section 14).

Conclusion

UTT is committed to providing education with a global vision. Initially, the University focused on Science and Technology which were identified at the time of its formation in 2004 as the key, and perhaps sole, training requirements, given the results of several workforce surveys then. As at 2008, four years later, the institution has worked to introduce a full spectrum of programme offerings in several areas linked to the current National Strategic Plan and to provide alternate avenues for individuals to enter, exit and re-enter formal education through new articulation options.

“Before there was UTT and a Maritime Centre for Studies, I was already working out at sea, mainly on Passenger Vessels, both locally and internationally. I was gearing up to further my studies within the maritime industry (Navigating Officer) abroad (England). I was in the U.S. when I learnt about UTT and its offering of Maritime Navigation schooling with the same standards of an International Maritime Institution. That’s when I enrolled at UTT in 2005.

Part of my training as a Merchant Navy Marine Navigating Officer requires me to train onboard vessels approximately four months per year. These vessels I trained on were provided

by UTT in collaboration with various international shipping companies trading in and out of Trinidad and throughout the world, such as Exmar Shipping/Suez LNG (LPG tankers) and BG British Gas (LNG tanker).

I must say all my voyages were enjoyable and it assisted me greatly with my practical phase of studies.

Also being on international vessels you meet people from all over the world and learn more about their culture, as well as being able to market yours (Ambassador for Trinidad and Tobago). I’ve sailed with over 16 different nationalities between 2006 and 2008.”



DAYNE SEECHARAN

Year 4,
Diploma in Maritime Operations
(Navigation)

3.0 | REPORT OF THE PRESIDENT

Significant Milestones 2006

In the context of the rapid expansion of student intake, the widening expansion of programme choices available to students and the organisational developments required to meet the growth challenges in fulfilling the mandate of the Government, three of the many significant achievements of the University for the academic year 2005/6 are hereunder highlighted. An underlying lesson of such achievements is that the rapid development of tertiary education capabilities and facilities is not an inexpensive venture.



We are pleased to submit our Second Annual Report 2006 at this time and, following the method we adopted in the First Annual Report 2005 where we reported on the more recent events of the University up to the period June 2008, this Report will in addition principally outline the more recent events of the University up to the period September 2008.

Kenneth Julien, T.C. (Professor Emeritus) President

i) Campus Development

- a) the completion within 24 months of the construction of our first new Campus at O'Meara, i.e. Construction of the Main Campus Building (125,000 square feet) and Construction of the Graduation Pavilion and Services Block (31,000 square feet) at a cost of TT\$138.6 million (US\$22 million); or at less than TT\$900 (US\$140) per square foot.

As at September 2008, a further phase of this Campus development was completed, i.e. the Construction of the Administration Building (25,000 square feet) at a cost of TT\$16.7 million (US\$2.7 million), bringing the overall cost to date of all three phases to \$155.3 million (US\$24.7 million), or TT\$858 (US\$136) per square foot, which is

materially below the current national average of TT\$1,450 per square foot.

The O'Meara Campus is meant to accommodate 1,000 students of the University.

- b) the completion within 15 months of the Phase 1 construction of the Chaguaramas Campus (80,963 square feet) at a cost of TT\$51.1 million (US\$8 million), or TT\$631.15 (US\$100) per square foot, which included construction of workshops, classrooms, library, fireground, training pool, pavilion, tuck shop/cafeteria, server room, washrooms, utilities, circulation areas, jetty, lifeboat davits and related infrastructure.

As at September 2008, Phase 2 of this Campus development is just about complete and comprises advanced training facilities, accommodation for participants (up to 54) in professional training programmes, simulator rooms, auditorium, offices, classrooms, staff common room, meeting rooms, kitchen, cafeteria, laundry facilities, sick bay, washrooms, circulation areas, and related internal and external infrastructure.

Estimated final costs of this phase for 60,730 square feet is TT\$68.5 million (US\$11 million) or TT\$1,128 (US\$179) per square foot, to bring the overall cost to date of both Phases 1 and 2 to TT\$119.6 million (US\$18.9 million); or TT\$844 (US\$134) per square foot, which is materially below the current national average rate of TT\$1,450 per square foot for this class of building.

The Chaguaramas Campus is meant to accommodate 600 full-time and 400 part-time students of the University.

ii) Alliances

In the pursuit of its mandate the University entered into several collaborative arrangements with internationally recognised Universities. Such partnerships yield enormous benefits to both students and Faculty. During the academic year 2005/6, there were four specific academic collaborative agreements which UTT actively managed: Cambridge University (July 2005), Johns Hopkins Medicine International (February 2006), the Technical University of Denmark (April 2006), and The University of Texas at Austin (August 2006).

The alliance with the Cambridge University concentrates primarily on a Master's programme in Industrial Innovation, Entrepreneurship and Management. As at September 2008,

this programme has already produced 19 graduates with a range of practical business and industry techniques/ methods which make them immediately marketable. A further 18 students are at present enrolled. It has led to the enhancement of UTT's technological capabilities and improvement of industrial research collaboration between UTT and the manufacturing industry. In a real sense, this programme is transformational in that it follows through on the Cambridge University Study pertaining to strategies for reshaping hydrocarbon-based economies into manufacturing economies.

Our relationship with the University of Texas at Austin is ongoing and focuses on Energy studies, generally. In the area of Petroleum Engineering, an international collaboration agreement has allowed for the expansion of the engineering education opportunities for students in Trinidad and Tobago. There are at present over 90 students registered in the Bachelor's Programme; and the academic year ended September 2008 would witness its first graduating class. Another key area of the collaboration relates to the establishment of the Natural Gas Institute of the Americas.

To date, there are over 40 students enrolled in the Master's in Health Administration which is jointly developed with personnel sourced from Johns Hopkins Medicine International (JHMI). This Alliance has led to the establishment of the Caribbean Herbal Medicine Research Institute to which JHMI would be providing advisory services. This collaboration is designed to lead to the creation of Clinical Centres of Excellence, Research Institutes, and general assistance in health sector reform.

Collaboration in the fields of Chemical Process Technology and Bio-Process Technology has been formalised with the Danish Technical University. The key deliverable is the provision of assistance in the teaching of the Processing Engineering Professional Degree as well as the development of research in bio-processing through the development of a Pilot Plant which currently is under construction and aimed at producing single cell protein from natural gas or methanol.

iii) Organisational Development

(a) Establishment of HR and Student Affairs Functions (2006)

The year saw the formal establishment of an HR and Student Affairs function to oversee the anticipated rapid

growth of staff recruitment, both academic and corporate, and student enrolment through the appointment of a Vice President. On the academic side, the post of Provost had already been filled through the appointment of Prof K.D. Srivastava in 2004.

The data below depict the rapid growth, in excess of 100 per cent in respect of both staff and student numbers, between 2006 and 2008:

(a) (i) Numbers of staff, corporate and academic, by classification

Total staff numbers, both corporate and academic, as at September 2008 stood at over 1,300 – up from the starting position as at November 2006 of marginally over 500, and are analysed as follows:

	2006 Nov	2008 Sep		2006 Nov	2008 Sep
Level	Academic			Corporate	
Ph.D	32	77		2	3
Master's	79	204		13	46
Postgraduate Diploma	0	7		0	6
Bachelor's	57	147		44	131
Other	38	171		239	526
TOTAL	206	606		298	712

Of the Academic staff as at September 2008, 20 were full Professors. The Profiles of the Senior Staff as at September 2008 (see section 15) reveal the full scale and depth of international experience, mixed with a significant proportion of local staff at the graduate level, available to execute the University's mandate.

(a) (ii) Numbers of students by level as at September 2006/2008

	2006	2008
Postgraduate	55	251
Undergraduate	1,456	2,537
Diploma	1,127	2,011
Certificate	100	133
Pre-University Programme	199	761
	<u>2,937</u>	<u>5,693</u>

Student enrolment for the academic year 2008/9 is expected to be in excess 6,400 following the intake of the third cohort of students for the B.Ed programme in January 2009.

Greater details of our Programmes will be outlined in the Report of the Provost in section 4 following, but suffice it to say that over the four-year period the University has placed increasing emphasis on Postgraduate Studies and Research (more details are provided in sections 9 and 10).

Second Graduation Ceremony (2006)

In November 2006, the University hosted its second graduation ceremony. Three hundred and forty students received Degrees and Diplomas, wearing specially designed gowns featuring a stylised **Moriche Palm**. To commemorate its second graduation exercise, the University awarded Honorary Doctorates to the following:

- Ms. Althea McNish – Honorary Doctor of Fine Arts.
- Mr. John La Rose Esq. – Honorary Doctor of Letters, posthumously.

Ms. McNish was born in Trinidad and Tobago and graduated from the Royal College of Arts in 1968 with the Diploma of Design. Her many awards include i) being appointed a Fellow of the Chartered Society of Designers (UK) and ii) being awarded the Chaconia Gold Medal in 1976 by the Republic of Trinidad and Tobago for long and meritorious service to Art and Design.

Mr. La Rose, born in 1927, was a graduate of St Mary's College, Trinidad and Tobago, and was actively involved in national politics in the early 1950s before migrating to the UK where, as writer and poet, publisher and political activist, his contribution to the development of Black cultural expression in the UK flourished. He was a founder of the New Beacon Bookshop, which in 1966 was the first Black Publishing House/Bookshop in Britain, and the Black Parents Movement in the mid 1970s in the battle against racism in the British education systems.

Financial Review 2006

The Government continued to adequately provide for the funding of the University's capital and recurrent financial needs for the year.

REPORT OF THE PRESIDENT

The financial surplus for the year was TT\$2.8 million resulting in accumulated Reserves for the two-year period 2004-2006 of TT\$13.5 million. Staff costs increased from TT\$21.5 million in 2005 to TT\$51.6 million in 2006 with the recurrent contributions from the Government increasing by TT\$26.6 million to TT\$96.8 million in 2006. The Industry Liaison and Professional Education Unit (ILPE), the commercial training arm of the University, continued to perform well in generating a surplus of TT\$2.5 million, last year's surplus being TT\$3.3 million.

Programme in Health Administration to students located in Tobago. In addition, the Pre-University Programme is being offered at Signal Hill Senior Comprehensive School. Until a UTT Campus is constructed, a UTT Office is being established at Sangster's Hill Mall, Scarborough.

The design of the new UTT Campus planned for Tobago is currently in the final stages of completion. It is anticipated that construction can begin in 2009. The location of this Campus is still to be finalised. In addition to facilities for teaching and research, the UTT Tobago Campus will include

ALLANA CHIN LEUNG FATT

Year 4, B.Sc. Manufacturing Engineering

"I am currently a fourth and final year B.Sc. Manufacturing Engineering student at The University of Trinidad and Tobago. I always had a passion about machines, their design, and ways of how I can improve them. After A-levels, I wanted to further my knowledge in this field, after which I intended to establish my own business. I chose to further this passion at UTT because it provided an impressive B.Sc. Degree Programme and an excellent learning environment that incorporates and encourages both manufacturing designing and entrepreneurship.

My stay at UTT thus far has been one of no disappointments and no regrets. The 'hands-on' learning and industrial work experience during the course of the programme has been exceptional in enhancing the theory I learnt in the classroom. This type of learning has greatly improved my interpersonal and industrial skills, which will be to my advantage. Upon graduating from UTT in 2009, I look forward to using this advantage to boost my professional life as an engineer, and have a positive impact on the Manufacturing Sector of Trinidad and Tobago."



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Capital funding from the Government amounted to TT\$194.7 million which funded the increase in capital expenditures of TT\$183.7 million, resulting in an increase in the net assets base of the University from TT\$300.2 million to TT\$491.3 million as at the end of the year.

Developments as at September 2008

(A) Further Campus Developments

Tobago

UTT has commenced activities in Tobago by utilising videoconferencing facilities for delivery of a Master's Degree

a Visitors Centre focusing on displays related to marine life and the environment.

Tamana InTech Park

Construction of the new UTT Main Campus at Tamana InTech Park commenced in June 2008. This Campus is expected to be completed in late 2010, for commencement of academic activity in September 2011. Expected student intake is 2,500.

The first phase of this Campus comprises 17 buildings with a total area of approximately 40,000 square metres. The entire complex utilises modern architectural design and landscaping that will represent a model for future infrastructural development of Trinidad and Tobago.

Point Fortin

In December 2007, UTT and Atlantic LNG entered into a formal agreement to offer educational programmes over two phases as a strategic response to meeting the education and training needs of Point Fortin and its environs. Phase 1 involved the delivery at a temporary centre of a one-year Pre-University Programme (PUP) designed towards preparing students without the relevant CXC passes for entry into UTT Diploma programmes. Phase 2 involves the establishment of a Point Fortin campus which will offer both the PUP and several Engineering Diploma programmes related to the needs of Atlantic LNG and other companies operating in the Southwest Peninsula of Trinidad and Tobago.

Projected enrolment for the Campus in the first year of operations is approximately 300 students of which 50 are expected to pursue the PUP and 250 the Diploma programmes. The site for the Campus has already been identified and construction activities are expected to commence in 2009 with capital expenditure being funded by Atlantic LNG. The Government of Trinidad and Tobago is expected to fund the recurrent expenditure on the commencement of classes.

(B) Update on Institutional Alignments

Government decided that commencing 2004 the functions of a number of institutions should cease and that UTT should assume responsibility for these functions and deliver them, suitably enhanced and upgraded, for the benefit of the nation.

In 2006, the two-year Teachers' Diploma delivered at the Corinth and Valsayn Teachers' Colleges was brought to an end and, in its place, UTT began the delivery of a four-year Bachelor of Education programme. In that same year, the functions of the San Fernando Technical Institute (SFTI) and the John S. Donaldson Technical Institute (JSDTI) were reorganised with these institutions becoming the sites for the delivery of the National Engineering Technician Diploma (NETD) programmes by UTT.

The Diploma programmes originally delivered by the Eastern Caribbean Institute of Agriculture and Forestry (ECIAF) have been enhanced and expanded and are now being delivered by UTT. Planning has begun for the delivery of a Bachelor's programme in Biosciences, Agriculture

and Food Technology in September, 2009. The mandated acquisition – still in the process of full implementation, of the resources at the Sugarcane Feed Centre, the Research Division of the Centeno Experimental Station and the Aripo Livestock Station are all in consonance with these plans.

The functions of the Caribbean Industrial Research Institute (CARIRI) and the Institute of Marine Affairs (IMA) are to be rationalised following the creation of Caribbean Industrial and Technical Services Limited (CITSL) and the launching of the Marine Sciences teaching and research programmes at UTT. CITSL should begin operations in early 2009 and the launch of the Marine Sciences programmes is scheduled for September 2009. The current operations of NIHERST are also scheduled to be concluded by early 2009, with the key functions aligning themselves with programmes and activities already in place at UTT. The operations of the Caroni Research Station (RESS) have been incorporated under UTT; and negotiations for absorption are continuing with respect to the engineering, tool and die functions of the Metal Industries Company Limited (MIC).

(C) Organisational Development

Given the very rapid expansion of our recruitment drive over the last two years when 700 new employees were brought on board, we undertook two initiatives to ensure the proper management of this growth process: both a Performance Management System and an Employee Satisfaction Survey were introduced in late 2008. Firstly, the decision was taken that, by the end of 2008, every employee completing at least one year of full-time continuous service with the University would have a performance appraisal completed.

Secondly, UTT undertook its first Employee Satisfaction Survey, utilising the skills of a local consultant to provide an opportunity for all our academic and corporate staff to give valuable feedback on key areas impacting on their performance and productivity at the University. These areas included, inter alia, employee engagement, strategic alignment, work organisation and corporate social responsibility. The majority of employees responded to the online and paper questionnaire, thereby providing UTT with valuable data to inform future strategies for improving the level of employee satisfaction and overall productivity.

Both these initiatives were undertaken within the

context of our ongoing human development programmes provided to the academic and corporate staff through the mechanisms of financial educational assistance and scholarships for advanced learning: financial educational assistance to staff doubled from 33 in 2006 to 67 in 2008, with over 70 per cent of such qualifying staff pursuing undergraduate and postgraduate studies; and between 2006 and 2008, six scholarships were granted to deserving students.

(D) Technology Perspectives

UTT has long recognised the strategic importance of Information and Communications Technology in achieving its goal of 'Education with a Global Vision'. To this end, it has heightened its programme – at an estimated cost in excess of TT\$35 million, commencing 2008/9 in pursuing the upgrading and implementation of high capacity Internet access and electronically linking all its Campus locations in Trinidad and Tobago. This basic infrastructure is intended to facilitate critical research with international partners and research laboratories, as well as provide the capability to collaborate internally and externally through modern state-of-the-art videoconferencing and telecommunications.

Students will benefit from Campus-wide wired and wireless access to UTT's online learning resources, international library subscriptions and connectivity to the Internet, whether in the classroom, dormitory or in common areas on Campus. UTT will be able to provide opportunities for students anywhere in Trinidad and Tobago, and in fact the world, to participate in its educational programmes remotely, and delivery of teaching and learning in a cost-effective efficient manner. All of these facilities are being planned and implemented to integrate with our Signature Campus at Tamana when it comes onstream in 2010.

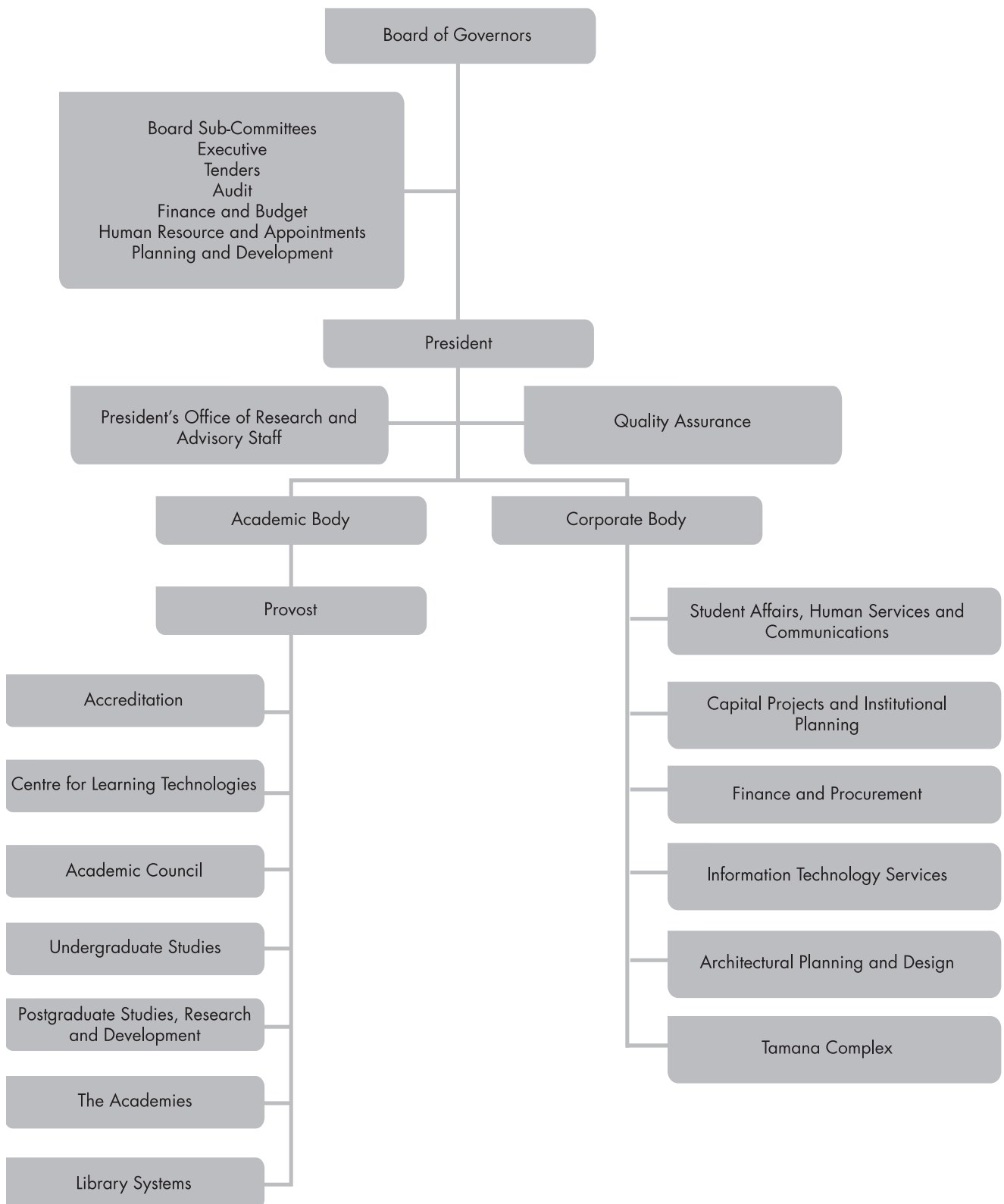
Conclusion

In fulfilling the Government's mandate envisioned in the National Strategic Plan, the University has had to expand and deepen the range of its educational programmes offered within a narrow time frame: this has not been, and continues not to be, an inexpensive venture – physical facilities have had to be newly constructed, and, in some cases, modified and improved; programme professorial expertise has

had to be sourced from outside of Trinidad and Tobago, given the specialised nature of the programmes offered, with the concomitant requirement to find appropriate accommodation in a very buoyant real estate market for such staff; with the rapid institutional growth has come the need for an accelerated programme of recruitment of local staff within the context of a current economic environment described as being of 'full employment'.

The following sections of the Annual Report give a concise insight of some of the initiatives being pursued by the University: we will continue to give further reviews of other aspects of our activities in subsequent Annual Reports.

ORGANISATIONAL STRUCTURE



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Teaching Programmes

Programme Structure

Programmes are offered at the following levels:

- **Pre-University Programme** – allows students to upgrade their qualifications to basic entry grade for Certificate and Diploma programmes.
- **Certificate Programmes** – One-year training programmes from CXC level to prepare students for very specific employment situations.



Professor David McGaw
Provost

Notwithstanding the fact that it is only four years old, UTT is moving quickly towards being a Research-based University, with teaching programmes devised to provide trained graduates to contribute to the more important areas of national development. Its programmes are specifically designed to maximise access to tertiary education, and to provide vertical integration, where appropriate, to allow for students to attain their ultimate level in accordance with ability and personal choice. The organisational structure of the Academic function is structured along sectoral lines as shown in Figure 1, this approach allowing for a more multidisciplinary approach to both programme delivery and the organisation of the various research programmes.

- **Diploma Programmes** – Sub Professional/ Technician level programmes.
- **Bachelor's Programmes** – Full Professional degree programmes.
- **M.Sc Programmes** – Taught Postgraduate programmes in specific areas of national need.
- **M.Phil/Ph.D Programmes** – Research-based degrees.

The Certificate, Diploma and Bachelor's programmes normally contain a Co-Op (industrial attachment) element.

The status of the current teaching programmes are described under the various Schools/Academies in accordance with the organisational chart.

Pre-University Programme

The Pre-University Programme was first offered in 2007/8 to allow students the opportunity to achieve the standard for moving into the mainstream programmes. Registration for the 2008/9 academic year is in excess of 700.

School for Science, Engineering and Technology

The offerings at the different levels may be summarised as follows:

- i) One Certificate Programme in Process Operations
- ii) Ten National Engineering Technician Diploma (NETD) Programmes in the various Engineering and IT Disciplines
- iii) Maritime Diploma programmes training both Deck Officers and Engineering Officers
- iv) Four Diploma programmes in Agriculture and Forestry
- v) BASc/M.Eng programmes in seven Engineering and IT disciplines.

The three-year BASc (Bachelor of Applied Science) and four-year M.Eng Programmes were introduced for the first time in the 2008/9 Academic Year, and are offered both Full Time and Part Time. They replaced the four-year B.Sc programmes for which the first graduates will be produced in 2009, and the programmes phased out by 2010.

The B.Tech (with UWI) and B.Eng programmes which are at the Incorporated Engineer level are being phased out over the next two years.

In excess of 3,000 students are registered in these programmes in the 2008/9 academic year.

School for Learning, Cognition and Education

The four-year B.Ed programme was initiated at the behest of the Ministry of Education in September 2006, with an intake of ~400 students at each of the two campuses, Valsayn and Corinth. However, because of space limitations at these campuses the second cohort had to be limited to two groups of 200, these being located at JSDTI and SFTI for the 2007/8 academic year. Since the necessary additional space at Valsayn and Corinth campuses will not be available until January 2009, the entry of the third cohort has been deferred until that time.

There were 1,375 registered students in the B.Ed programme in 2007/8; however, it is expected that this will

increase to a number in excess of 2100 students from the second semester of 2008/9.

The Academies

The Academy for Sports and Leisure Studies – The Certificate in Sports Studies was initiated in the 2007/8 Academic year with Sports Scholars specifically chosen for their potential for success in the major sports. Two new cohorts, one for a new set of Sports Scholars, and another for general admission, were admitted for 2008/9. In addition, a new Bachelor's programme in Sports Studies was offered for the 2008/9 Academic Year with the graduates from the 2007/8 Certificate programme taking up places, together with new students from general admission. These programmes are located at the SFTI Campus.

The Caribbean Academy for Fashion and Design – Two Diploma Programmes and a Bachelor's programme in Fashion and Design were devised and approved during the 2007/8 Academic Year and introduced at the JSDTI campus in September 2008. There are 84 students registered on these programmes in 2008/9.

The Academy for the Performing Arts – Teaching programmes in the Performing Arts (Theatre, Music and Dance) will be initiated after completion of the National Centre for the Performing Arts in Port of Spain. In the meantime, programmes are being developed and teaching staff are being recruited.

Postgraduate Studies and Research

Postgraduate Teaching Programmes

The following Master's programmes were operated during the 2007/8 academic year:

- Environmental Science and Management
- Health Administration (with Johns Hopkins University, USA)
- Industrial Innovation, Entrepreneurship and Management (with Cambridge University, UK)
- Information and Communications Technology
- Maritime Management (with Southampton Solent University, UK)
- Petroleum Engineering (with the University of Texas, Austin, USA)

A number of these programmes utilised international partners, as identified in brackets.

There were over 200 registrations on these programmes for the 2008/9 academic year.

Research Programmes

In its quest towards being a research-based University, UTT has initiated a number of research programmes, with students registered for the award of Master's and Ph.D degrees. UTT recognises the importance of multidisciplinary research and has, since its inception, been developing a number of research groups in specific areas associated with national development as follows:

- Biomedical Engineering
- Biosciences and Agriculture
- Education
- Energy Systems, with emphasis on Green and Renewable Energy
- Environmental Health and Safety
- Herbal Medicine (with Johns Hopkins University, USA)
- ICT
- Literary and Cultural Studies
- Mechatronics/Manufacturing Engineering
- Natural Gas Institute of the Americas (with the University of Texas, Austin, USA)

Of particular note is the construction of a Pilot Plant at the Point Lisas Campus for evaluating the production of Single Cell Protein from Natural Gas or Methanol. This is being done in collaboration with the National Energy Corporation Ltd (NEC), Evolving Technologies and Enterprises Development Company Ltd (eTeck), the Danish Technical University, and the UNIBIO company, also from Denmark. It is anticipated that the plant will be installed in the second quarter of 2009.

In addition, the Academy for Arts, Letters, Culture and Public Affairs has eight Distinguished Research Fellows carrying out research on a wide range of cultural topics of national importance:

- Hidden Cultures – French Creole/History and Culture of Sugar/First Peoples/Ramleela
- Visual Arts
- History of Media
- Entrepreneurship

The research work of UTT is disseminated nationally through the Public Lecture Series, the organisation of conferences and also through the Fellows gatherings of the Academy for Arts, Letters, Culture and Public Affairs. The Third Tobago Gas Technology Conference (TGTC) held October 07 to 10 2008 was a great success, attracting scholars and practitioners from around the world.

Graduate Output 2005-2007 and Projections for Enrolment

Between 2005 and 2007, UTT graduated over 1,300 students – mostly at the Diploma level. Over the coming years, there will be an increase, not only in the numbers of students graduating, but also in the distribution of qualifications to include larger numbers of Bachelor's, Master's and Doctoral awards.

At the commencement of the 2008/9 academic year, the University's student body totalled in excess of 5,600 students which will increase to well over 6,400 with Cohort 3 (an additional 800) of the B.Ed programme entering the system in January 2009. Projected growth to 2012, with the completion of the main Campus at Tamana, is expected to be 12,000.

This increase in growth will be fuelled by the natural expansion of existing programmes and the introduction of new programmes in the following areas:

- Biosciences, Agriculture and Food Technology
- Commerce Studies
- Criminology and Public Safety
- Energy Studies
- Performing Arts

Registration and Accreditation Status

The Accreditation Council of Trinidad and Tobago (ACTT) requires that all tertiary level institutions operating in Trinidad and Tobago be registered under the Act governing the ACTT. UTT was formally registered by the ACTT in June 2008.

A Quality Assurance and Accreditation Unit has been set up in order to ensure that all programmes conform to the highest Quality Standards and are in accordance with the University's Regulations. It should be noted that a programme may only qualify for accreditation after it has graduated its first cohort of students. Given the year of its incorporation (2004), only UTT's Diploma (not

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for accreditation) and Bachelor of Applied Engineering Programmes have produced graduates. Two of these Bachelor's programmes (offered jointly with the Faculty of Engineering, UWI) have already received accreditation from the Institute of Engineering and Technology (UK).

Discussions have been held with international engineering accreditation bodies in the UK, USA and Canada, as well as German accreditation bodies, to determine the most appropriate fit for accrediting the various professional programmes of UTT. Wherever applicable, the University will also consider accreditation for its non-engineering programmes.



Katrina London

Year 2, Diploma in Agriculture

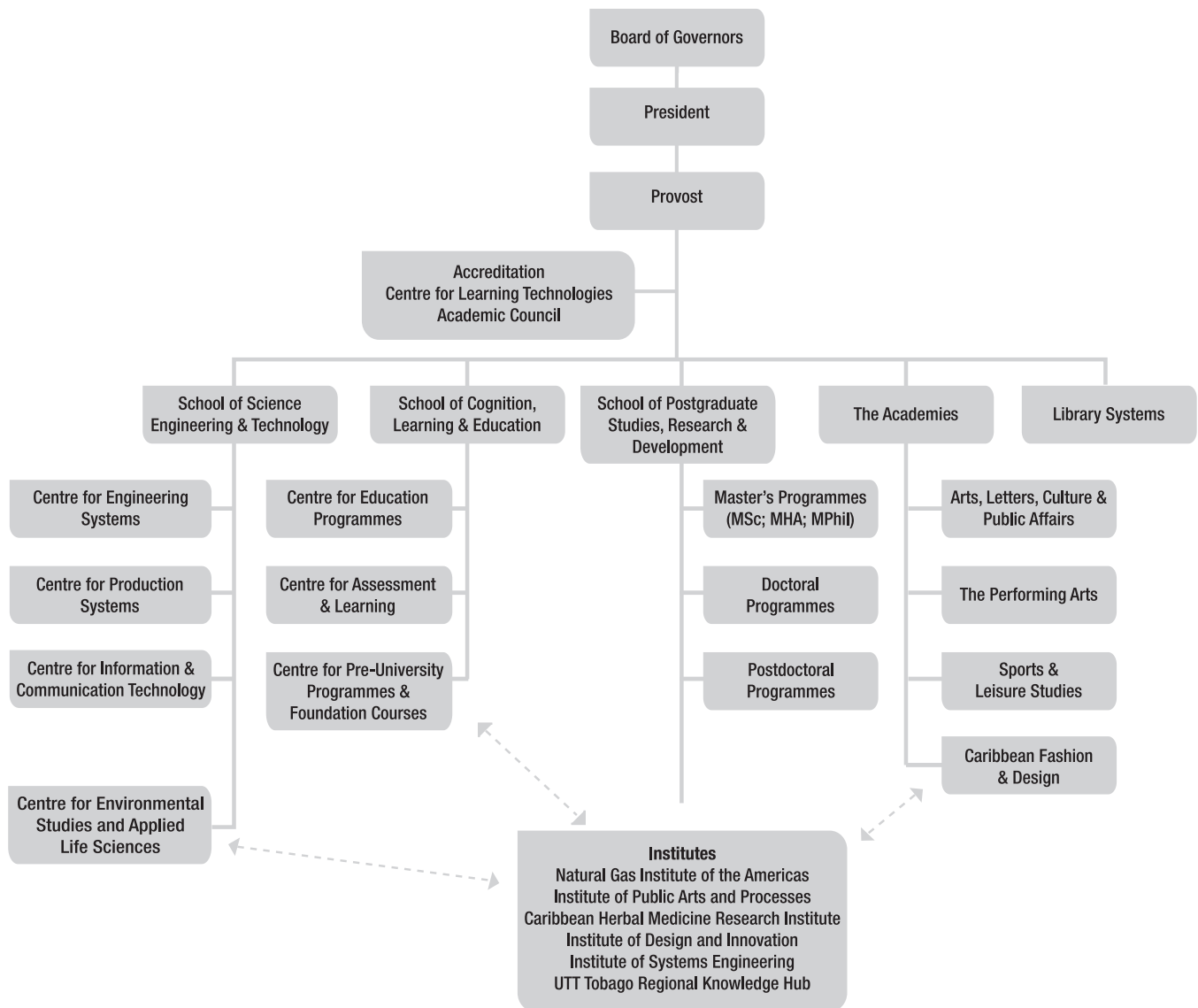
"I am from Tobago and my ultimate goal being at UTT is to become a veterinarian, majoring in medicine.

At the ECIAF Campus of UTT many upgrades have been done for a better functional environment for both students and staff. When my studies are complete and I leave UTT, I will take with me the memories of having met lovely and friendly co-students, not to mention the various activities that have made our stay and friendships exciting.

To anyone wishing to come to study at UTT, please come with an open mind and you must be willing and able to work hard, get up early, study hard, be responsible, overcome lots of challenges, not forgetting to make a lot of sacrifices."

ACADEMIC STRUCTURE

Figure 1.



Background

The University was given a mandate for Teacher Education by the Government of Trinidad and Tobago (GORTT) in December 2005 which accepted the recommendations of the Draft Interim Report of the Working Committee on Teacher Education and agreed to the transfer of the Teacher Training Colleges at Valsayn and Corinth to the University. Under these new arrangements, teachers at all levels of the educational system – early childhood, primary

The objectives of the B.Ed programme are:

- To provide degree programmes for early childhood, primary and secondary school teachers which would enable them to fulfil national educational goals
- To encourage research into social and educational issues, the findings of which would inform educational policy and practice
- To provide a student-centred environment which would encourage the pursuit of academic excellence as well as high moral and ethical standards
- To strengthen the links between the classroom, the community and industry, e.g. through community service and school/industry partnerships
- To provide continuing professional development for staff in order to create a cadre of qualified professionals able to provide academic leadership and engage in research and development activities
- To engage in innovative pedagogies and the promotion of multidisciplinary and curriculum integration
- To ensure expanded access to tertiary education for a diverse student body.

The graduates of the B.Ed programme are expected to have:

- Deep knowledge of the content required by the national curriculum at all levels
- Sound pedagogical knowledge
- Ability to plan effectively for instruction
- Skill in the design and use of various assessment tools
- Effective management of classrooms
- Knowledge of student/school environment
- Professionalism

The programme was started in October 2006 with an intake of 742 full-time students and 175 part-time students. All students follow a common first year of general education courses before selecting an area of specialisation which they pursue along with pedagogy and field experience over the next three years. In the academic year 2007/2008 eight specialisations were offered:

- Early Childhood Care and Education
- Primary Education
- English Language and Literature (Secondary)



Professor Jeannette Morris

and secondary – had the opportunity to pursue a Bachelor of Education (B.Ed) four-year Degree in a number of specialisations combining general core courses, disciplinary content areas, pedagogy and practical field experience.

This approach was based on the premise that the foundation for tertiary education is laid in early childhood centres and primary and secondary schools so that the education of teachers who are responsible for educating students in these institutions was of paramount importance. This is consonant with UTT's vision of being a leading university recognised for excellence and meeting national objectives by producing graduates to drive national aspirations.

THE SCHOOL OF COGNITION, LEARNING AND EDUCATION

- Agricultural Science (Secondary)
- Integrated Science (Secondary)
- Mathematics (Secondary)
- Social Studies (Secondary)
- Special Needs Education

For the academic year September 2008/2009 two new specialisations are being introduced: i) Physical Education in conjunction with the Academy of Sports and Leisure Studies and ii) Technical-Vocational Education in the area of Business Studies. The total enrolment as of September 2008 is 1,375 students (these numbers do not include the full-time intake of an additional 800 students which has been deferred to January 2009).

Students are offered a range of co-curricular activities in Sport such as cricket, basketball, and football. Cultural activities are not neglected and students celebrate national festivals such as Eid and Divali and a choir of staff and students presents an annual Christmas concert.

One of the continuing challenges experienced is in the recruitment of the necessary qualified staff. It has been difficult to recruit staff in some areas and the University has not been able to bring staff on board as quickly as they are needed. The current staff complement is 112. Of these there are two professors, four associate professors, 16 assistant professors, two research associates and 88 instructors.

Lack of space is also a serious limitation which is being addressed by construction of prefabricated buildings at Valsayn and Corinth. Because of the lack of space, incoming students have had to be located at the John Donaldson Technical Institute and the San Fernando Technical Institute in September 2008. The 2009 full-time intake has had to be deferred to January 2009 until the new building is completed. However the existing infrastructure at Valsayn and Corinth is continuously being upgraded and additional facilities provided.

Postgraduate Programme

In fulfilment of UTT's goal to become a centre of excellence in research and development, 13 students have been accepted to do the Ph.D. Priority was given to members of staff who wished to upgrade their qualifications and who wished to pursue research in areas considered crucial to the education system such as, inter alia, mathematics, educational technology and literacy.

Research

Staff members are involved in carrying out research linked to their practice and several members have attended conferences and presented papers. An in-house monthly seminar series to stimulate discussion of research and to give opportunities to staff members to present their work before their peers is scheduled to start in the last quarter 2008.

Future Directions

The projected student intake is 800 annually so that a four-year cohort is projected to be 3,200 students. This requires a concomitant increase in staffing, especially as the methodology used for delivery is small group instruction.

The offerings are to be increased with new specialisations coming on stream. For the 2009/2010 academic year, the projected new offerings are secondary specialisations in Spanish, Biology and Information Technology.

With the completion of the new buildings there will be air-conditioned and well-equipped classrooms with facilities for the Visual Arts, Dance/Drama, Music etc., a multimedia lab and an additional computer lab.

Expansion of the postgraduate programme and development of graduate courses are also projected, as well as the introduction of a Master's Programme. The forging of links with foreign institutions for collaborative research projects and faculty and student exchanges is also being pursued.

Despite the rapid growth of the programme, systems are being put in place to ensure quality of instruction. Courses are being reviewed and benchmarked against what is being done regionally and internationally. Quality of delivery is being monitored and staff development is actively encouraged. Many staff members are enrolled in higher degree programmes at UTT, UWI and overseas Universities. With the programmes we have, we are confident that our graduates will make a difference when they go out into the school system as they will have been prepared for the important task of educating children of the twenty-first century.

MELANIE MATHEWS

Year 3, Bachelor of Education

“Choosing to pursue my Bachelor’s Degree was by far one of the most important decisions that I have made to date.

I am an early childhood educator and previous to attending UTT, I did my Certificate in Early Childhood Care and Education at the University of the West Indies distance education centre. This is the field that I have grown to love and am focused on. I found out that there was a Bachelor of Education programme offered at UTT that allowed for specialisation in early childhood education. This seemed very attractive and catered to my educational needs.

Attending UTT has enhanced my educational goals, because it has given me the tools I need to do my job. I love children and I want to make a difference in their lives. I am already using the things I have earned from my completed courses, allowing me to create a fun and stimulating teaching environment to develop holistic, life-long learners.”





VICTORIA RAVELLO-HOSTEN

Year 3, Bachelor of Education

“This is what The University of Trinidad and Tobago has taught me so far:

I have been an educator for the past 12 years, and there are three reasons why I did not hesitate in choosing UTT for advancing my career in higher education and learning cognition:

1. My former principal encouraged me to pursue my Bachelor's Degree in Education at this institution. UTT made it convenient for me as a working person to attend the programme on a part-time basis.
2. The Government has assured 'Free Tertiary Education for all'. They also ensured that the staff and facilities are of a high quality; and that the degree that is conferred is internationally recognised.
3. The Bachelor's Degree of Education Programme at UTT will not only enhance my career goals and opportunities, but personally equip me to be a better facilitator for our future – that is, the nation's children; for when we engage children in Socratic learning, they learn how to learn as they learn.”

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

The Academy at UTT for Arts, Letters, Culture and Public Affairs (hereafter referred to as The Academy) was established on the basis of an Advisory Council Report submitted to the Chairman of the Board of Governors of The University of Trinidad and Tobago on February 28, 2005. The members of the Advisory Council were:

- Mr. Ian 'Teddy' Belgrave
- Mr. Gerard Besson
- Mr. Rawle Gibbons
- Ms. Merle Hodge
- Mr. R. Barry McComie
- Dr. Kirk Meighoo
- Professor Kenneth Ramchand
- Mr. Ravindra Nath Maharaj (Raviji) (Chairman)

Since its establishment in 2005, The Academy has defined itself as an Institute for Advanced Study and Research, dedicated to rediscovering the aspects of the cultures of the Region that have been hidden, repressed and neglected or presented in a discourse that all too often misrepresents value and significance. To carry out its work, The Academy's second emphasis is learning from the communities whose culture it is researching; and through its outreach programmes, reporting back to these communities and to the general public at regular intervals through its public lecture series.

The Academy's activities between 2005 and 2006 included the selection and appointment of Fellows, the formulation of specific project proposals within a framework for the Report and the preparation of an Architect's Brief for the construction of a dedicated Academy Building at the main UTT Campus at the Tamana InTech Park.

In 2005-2006, The Academy conducted an Advanced Steel Pan Tuning workshop for established practitioners and devised a proposal for a Bachelor of Science degree in the Science and Technology of Music (with special reference to Pan). A conference on Ramleela was held to discover where the emphasis should lie in the development of Indian Cultural Studies and similar attempts were made to reach out to the African cultural elements. These activities included a lecture on 'The Significance of African Heritage in the Caribbean' by distinguished researcher Professor Maureen Warner-Lewis, within a series of four lectures called The Classical and The Contemporary. One of the highlights of the public lectures was 'The Caribbean in a Global World – An Urgent Need for Vision' at the Central



Professor Kenneth Ramchand

Associate Provost, The Academy at UTT for Arts, Letters, Culture and Public Affairs.

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

Bank Auditorium by Dr. Randall Robinson. Although this Report is intended to cover mainly the period 2006-2007, some of the significant Academy's events of 2007-2008 are included in the tables which appear later in this Report.

The first Research Fellow was appointed in November 2006. At present, there are eight Fellows appointed to The Academy and two UTT staff members, Dr. Hollis Liverpool and Mr. Mario Lewis, who are housed in The Academy.

The Research Fellows appointed and their research areas are:

Dr. Brinsley Samaroo	<i>(The Hidden Cultures Project: The History and Culture of Sugar in Trinidad and Tobago);</i>
Mr. Lawrence Scott	<i>(The Hidden Cultures Project: French-Creole);</i>
Mr. Christopher Cozier	<i>(The Visual Arts);</i>
Ms. Patricia Elie	<i>(The Hidden Cultures Project: The First Peoples of Trinidad and Tobago);</i>
Mr. Peter Harris	<i>(The Hidden Cultures Project: The First Peoples of Trinidad and Tobago);</i>
Dr. Kim Johnson	<i>(History of the Print Media in Trinidad and Tobago);</i>
Dr. Indrani Rampersad	<i>(The Hidden Cultures Project: Ramleela in Trinidad and Tobago);</i>
Professor Selwyn Ryan	<i>(Entrepreneurship in the 19th Century and early 20th Century Trinidad).</i>

The activities of The Academy for the years 2007 and 2008 may be classified principally in an abridged form under the following headings:

- A. Public Lectures
- B. Seminars, Symposiums, Workshops and Training Programmes
- C. Publications

A. Public Lecture Series

The Academy's Public Lectures were carried out through a number of Lecture Series:

1. **The Research Fellows' Series (RFS)** is a series in which Fellows present their work to the public. The Series is extended to include other researchers in the society and abroad whose endeavours are in keeping with the objectives of The Academy.
2. **The Living Artists' Series (LAS)** is based upon the work of the Honorary Distinguished Fellows of the University, but includes lectures and performances by Distinguished Achievers in any field who are regarded as artists and icons. The Honorary Distinguished Fellows are artists, thinkers and performers appointed by the Board of Governors on the recommendation of The Academy.
3. **The Distinguished Lecture Series (DLS)** includes persons in any field who have knowledge and expertise that are of immediate interest to the public.

In 2007 and 2008, two special Series were introduced: the 'Saving the Calypso Series' and the 'How I Do My Research Series' in which distinguished researchers, in any field, are invited to talk about their projects: how they carried them out, what resources they found or developed, and what initiatives, innovations and circumstances forced them to invent. The latter series was launched by Professor Adel Sharaf, Vice-Provost, Research and Postgraduate Studies (UTT) on Thursday September 18, 2008 and continues on Wednesday October 29, 2008 with a presentation by Mr. Ray Funk who conducts outstanding Caribbean research, although based in Alaska.

The 'Saving the Calypso Series', as proposed by the President, UTT, is led by Dr. Hollis Liverpool with the assistance of the Associate Provost (Academy). It has so far featured tributes to giants of the calypso song genre in the persons of The Mighty Duke, The Mighty Striker, musician Ed Watson, the Mighty Bomber and musician Cito Fermin. In this series, the work of the artists is analysed, evaluated and demonstrated, and a material form of appreciation is presented.

As the following Tables 1-4 show, an average of three lectures per month were delivered in the several lecture series in 2007-2008. In most cases the venue was the National Library and Information System Authority (NALIS) (Trinidad and Tobago) whose generous partnership is here acknowledged.

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

Table I: The Distinguished Fellows' Series

Date	Speaker	Title of Presentation / Details of Event
2007 Feb 12	Dr. Ray Funk & Dr. Hollis Liverpool	Dr. Dust and The Judge: Cricket, Lovely Cricket: Cricket, Calypso and the 1950 West Indies Tour of England
2007 Mar 01	Professor Laxminarain Sharma	Images, Myths and Symbols in the 21st Century
2007 Mar 07	Professor Maureen Warner-Lewis	The Significance of African Heritage in Trinidad and Tobago
2007 Mar 08 (Tobago)	Professor Ashok Aklujkar	The Influence of Sanskrit for the study of languages and for the people of Trinidad and Tobago
2007 Mar 16	Professor Richard Schechner	The Ramleela of Ramnagar (A 31-Day Performance in Northern India)
2007 Aug 14	Dr. Ray Funk & Dr. Hollis Liverpool	Cricket, Lovely Cricket: Cricket, Calypso and the 1950 West Indies Tour of England
2007 Aug 16	Dr. Ray Funk & Dr. Hollis Liverpool	The Road to Independence
2007 Sept 20	Professor Julian Kenny	The Reshaping of Icacos Point
2007 Nov 25	Professor Jeff Henry	The Trinidad Masquerade: Under the Mask: Repression, Rebellion and Resistance
2008 Mar 20	Dr. Frances Henry	The Legend of Pa Nezeer
2008 Sept 25	Dr. Vijay Narinesingh	Save a Leg: Reflection on the Diabetic Foot

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

Table 2: The Research Fellows' Series

Date	Speaker	Title of Presentation / Details of Event
2007 May 17	Ms. Patricia Elie	The Arena 'Massacre': The Untold Story
2007 May 24	Professor Brinsley Samaroo	Sugar & Religion: The Presbyndus
2007 June 14	Mr. Peter Harris	Caribs & Arawaks: An Indigenous Story
2007 June 21	Mr. Lawrence Scott	Cazabon & His Student: Letters & New Paintings
2007 June 28	Mr. Christopher Cozier	Looking Back. LeRoy Clarke & Peter Minshall's engagement of the 'Monumental'. Discussing the implications of objectives and actions on the construction of a historical narrative of visual expression.
2007 July 05	Ms. Patricia Elie	The Arena 'Massacre': The Untold Story
2007 July 19	Dr. Hollis Liverpool	The Disappearing Mask in Calypso
2007 August 09	Professor Brinsley Samaroo	Giving voice to the slave woman. Maria Jones of West Africa, St. Vincent & Trinidad
2007 Sept 06	Mr. Lawrence Scott	Cazabon & His Student: Letters & New Paintings
2007 Sept 13	Professor Brinsley Samaroo	Sugar & Religion: The Presbyndus
2007 Nov 22	Dr. Kim Johnson	Lecture on The Media
2008 July 03	Dr. Hollis Liverpool	Crime, Calypso and Criminal Justice
2008 Aug 20	Dr. Kim Johnson & Frank Luehning	Pan Am North Stars...
2008 Sept 11	Mr. Lawrence Scott	Cazabon, Artist of the Emancipation
2008 Oct 02	Dr. Kim Johnson	An Oral & Pictorial History of Pan – Problems and Possibilities
2008 Oct 9	Professor Brinsley Samaroo	Sweetness and Power: The Turbulent Career of Bhadase Sagan Maraj
2008 Oct 16	Dr. Kumar Mahabir	The Splendor of Divali

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

Table 3: The Living Artists' Series

Date	Speaker	Title of Presentation / Details of Event
2008 June 16	Cmdr. Gaylord Kelshall	Creating a Museum

Table 4: Public Education Seminars

Date	Speaker	Title of Presentation / Details of Event
2006 Nov 06	Mr. Randall Robinson	The Caribbean in a Globalised World – An Urgent Need for Vision
2006 Nov 10, 11 & 12	Several	Talking about Ramleela as we know, practise and remember it.
2007 Aug 17	Dr. Ray Funk	Launch of Exhibition on Moon on a Rainbow Shawl
2007 Aug 18	Dr. Ray Funk	Errol John Conference
2007 Oct 24	Dr. Hollis Liverpool	'Harps of Gold' – A Tribute to The Mighty Duke
2008 July 24	Dr. Hollis Liverpool	Tribute to Striker & Ed Watson
2008 Aug 27	Dr. Hollis Liverpool	Tribute to Bomber & Cito Fermin
2008 Sept 18	Dr. Adel Sharaf	The Art of Research, the Science of Development

The response of the citizenry to these lectures has been encouraging with attendances ranging from 70 to 115.

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

B. Seminars, Symposiums, Workshops and Training Programmes

The Academy presented a three-day International Symposium held in Tobago on **The Life and Work of Distinguished Anthropologist and Historian, Dr. J. D. Elder in October 2008**. This is the first in a series that would concentrate on the life and work of men and women who have made major contributions to Trinidad and Tobago's understanding of itself.

Earlier in the year, The Academy held a two-day symposium and exhibition in partnership with NALIS to celebrate the 50th anniversary of Errol John's 'Moon on a Rainbow Shawl', the Caribbean's most honoured and most continuously performed play, which has been presented all over the world and in different languages, and continues to be produced somewhere almost every year.

The Academy also staged in San Fernando, Trinidad, the first International Symposium on Muharram, better known as **Hosay**, a re-enactment by some Muslim sects of the funeral procession of murdered heroes in the battle of Kerbala. The event has taken on other features in Trinidad

C. Publications

For the last year, The Academy has been working on the creation of an Online journal in which the Fellows can engage in dialogue with other thinkers and researchers at the University and in the wider community. Work is also proceeding on the publication of the autobiography of recent Honorary Doctorate recipient, R.A.C. de Boissiere; and a book on the Life and Work of the great Trinidad painter, James Isaiah Boodhoo.

The research of The Academy's Fellows is supplemented by the work of five Postgraduate students who are supervised by the Fellows.

At the time of this writing, The Academy is working hard to press on with the setting up of a National Genealogical Database and to form an Association of Museums and Archivists in Trinidad and Tobago. The former was launched with a lecture by Mr. Shamshu Deen on Tuesday September 23, 2008 accompanied by an exhibition curated by the National Archives. The latter was inaugurated with a lecture by Commander Gaylord Kelshall, founder of the Chaguaramas Military Museum.

Table 5: Postgraduate Student Research

Research Area	Name of Supervisor
Festivals of Trinidad and Tobago	Professor Brinsley Samaroo
The Indian Film Industry in Trinidad and Tobago	Professor Brinsley Samaroo
The Novels of Lawrence Scott	Professor Kenneth Ramchand
Indian Genealogy Project	Professor Kenneth Ramchand
The Origins and Growth of Indian Music in Trinidad and Tobago	Professor Brinsley Samaroo

and Tobago, and, in 1884, was the occasion of a massacre by the Colonial Authorities. The Academy has had reasonable meetings with different Islamic sects over their different perceptions to this event and an argued statement of position is being constructed. A monument to mark the significance of the 1884 massacre in Trinidad's cultural and political history has been proposed.

As a contribution to Research in Medical Sciences at UTT, there is an active project to locate and collect the medical records of Caroni workers, and workers in the oil Industry, stretching over periods long enough to afford valuable insights into patterns of sickness and disease among ethnicities.

THE ACADEMY AT UTT FOR
ARTS, LETTERS, CULTURE
AND PUBLIC AFFAIRS



Dr. Kim Johnson, UTT Research Fellow, delivers a seminar in October 2008 entitled 'An Oral and Pictorial History of Pan – Problems and Possibilities'.

THE ACADEMY AT UTT FOR ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS



SHAMSHU DEEN

Ph.D Student, The Academy for Arts, Letters,
Culture and Public Affairs

“Over the past 25 years I have been involved in tracing documents of arrival of Indian indentured ancestors to Trinidad. I have also worked with other ethnicities in tracing their families.

My proposal to UTT and the National Archives for the creation of a National Genealogical Database for Trinidad and Tobago has been accepted. I have been registered on the Ph.D programme and I am conducting research in this field under the supervision of Professor Ken Ramchand. I have chosen UTT as an institution that has shown positive support to what I consider a vital area of promoting national and educational development.”

The goal of the Caribbean Academy of Fashion and Design at UTT (CAFD) is to educate and train aspiring designers and managers in the art and business of fashion with the objective of developing a Caribbean fashion industry. Currently, with effect from September 2008, the Academy offers a four-year BA (Honours) Degree in Fashion Design and two-year Diploma programmes in Fashion Design and in Fashion Management. UTT will ensure that courses of study are relevant to industry needs and that the quality of learning and training remains equal to noted fashion programmes in fashion capitals around the world.

In order to achieve its goals, CAFD has put into place:

- Curricula with rigorous classroom teaching, interactive and interdisciplinary work, and a balance between visual and liberal studies. It is a structured programme of learning created to promote analytical, critical and conceptual development.
- Alternative cross-cultural experiences in the education of its fashion designers and fashion managers. The Academy proposes an interdisciplinary integration of courses, projects, field trips, seminars and lectures relevant to both programmes.
- A method by which local, regional and international designers are involved in projects with its students. This will be realised through 1) "Designer Critic" projects involving the participation of industry professionals in ventures with students; 2) students taking part in regional industry events such as T&T Fashion Week (Trinidad), Caribbean Fashion Week (Jamaica); and 3) internship programmes where students gain first-hand experience working for locally and/or regionally established design firms and manufacturers.



Ms. Carol Mongo

CAFD Programme Consultant / Acting Programme Director

CAFD – The Project

Conceived more than 18 months ago, the project to construct the Caribbean's first top-level fashion design educational institution under the auspices of The University of Trinidad and Tobago was set into motion on October 1, 2007. Over the following 11 months, a provisional venue was identified and transformed into suitable drawing and design studios as well as lecture rooms. Specialised equipment and supplies were shipped in from New York and Paris, while furnishings (drawing and pattern drafting tables) were built by and purchased from local carpenters of Trinidad and Tobago.

Pedagogical staff

Teachers for the first year of studies were sought after, identified and employed. Of those hired, two Trinidadian instructors are graduates from the internationally acclaimed "Fashion Institute of Technology" (alma mater of Calvin Klein) and one individual is a graduate from the world famous "Central Saint Martins" in London. For those students directly involved in the Fashion Design studies, professional specialists (in the area of French couture, Fashion drawing and Textile Arts) were brought in from Paris to upgrade their skills to international standards.

Currently, the administrative staff numbers four; there are two department coordinators who also have teaching assignments and 10 other faculty members. Over the next two semesters (Jan '09, May '09) six other faculty members will come on board.

Today's Students, Tomorrow's Designers

More than 160 candidates applied for the academic year 2008-09. Candidates were required to submit a portfolio of work for consideration, along with letters of intent. Based on innate skills as well as academic performance, their work was scrutinised and selection was made. Many of those who applied were naturally gifted and the level of drawing and design ability was impressive. The programme began with an intake of just over 50 per cent (i.e. 84) registered for the BA Fashion Design and the Diplomas in a) Fashion Design and b) Fashion Management.

Challenges: Reinventing an Old Craft

In Trinidad and Tobago there is a strong heritage in Dressmaking. Dressmaking is a very noble craft but is not the mission of UTT's Fashion Academy. The CAFD is focused on "the business of apparel design: its conceptual development, textile development, retail, merchandising and management."

The CAFD Project has tremendous importance and could benefit the Region at large: stimulation of a dormant local industry, creation of jobs within the Region, recognition of the Region's potential in both the business sector as well as the educational sector.

With outside support from the business and governmental sectors, the CAFD can play a pivotal role in reviving what is left of the local fashion industry. It may also help Trinidad and Tobago carve a niche in the international marketplace. The newly trained Fashion Marketers will also play a major role in the exportation of local goods as well as the acquisition of quality textile goods for retail stores.

THE CARIBBEAN ACADEMY OF FASHION AND DESIGN (CAFD)

Today, Tomorrow: A Vision for the Future

In August 2008 the CAFD also launched "Short Courses" in Textile Arts (Handbag Design (Caribbean Jewellery Design to follow)). "Professional Workshops" in Embroidery, Knitting and Fashion Drawing will commence in November 2008. For September 2009, we envision a full-time Diploma in Fashion Management as well as a part-time BA (Hons) in Fashion Design.



SARAH O'SULLIVAN

(Ireland), Year 1, Diploma in Fashion Management

"My goal has always been to work within the fashion industry. In my work life I had the opportunity to work in a number of retail chains at home before moving into advertising sales and I would love to use the experience I have gained to develop a career in the fashion industry. When I heard UTT was introducing a course in fashion management, I jumped at the chance. Completing the diploma in fashion management is an ideal opportunity for me to learn the industry and gain practical qualifications which will hopefully open the way to achieve my goal of working in fashion.

I have received a warm welcome everywhere I have been in Trinidad and Tobago and UTT is no different. As an overseas visitor I am fascinated by the multicultural influences in Caribbean music, food and of course fashion and I am looking forward to learning more. My first impressions of the course are that we have hit the ground running.... It is exciting to be part of the first class to pioneer this new course in fashion management and I am looking forward to working with you all more in our time together."

An Educational Outreach programme with the mission to upgrade the quality of goods produced by the Region's existing fashion designers will be planned for implementation in the second quarter of 2009. This will be done by organising professional workshops to be facilitated by trainers from Paris and New York.

THE CARIBBEAN ACADEMY OF FASHION AND DESIGN (CAFD)

In 2010, we envision the launch of the Textile Arts Diploma Programme as well as a BA (Hons) in Fashion Management. We will also, in the near future, begin working to construct a Diploma programme in Professional Pattern Drafting studies. Open to all candidates on a first come, first served basis, this programme will concentrate on the technical aspects of apparel manufacture and will be accessible to larger numbers of students. With this programme, we are hoping to populate local factories with qualified workers.



JAUMARK PIERRE

Year 1, Diploma in Fashion Design

"There are many places in the world to study fashion, but I chose The University of Trinidad and Tobago. My decision was based on a simple theory which implies that inspiration must come from a source. I have chosen my country, Trinidad and Tobago as my source. One may ask, specifically where will this inspiration come from? Studying fashion at UTT will have this great effect on the silhouette I will produce. This experience will produce in me a fashion statement that will speak of our colourful twin islands; of its wealth of beauty and luxury; of its climate that can stand parallel among the big labels."

Finally, recognising the importance of getting students off the island to experience other fashion capitals, we are planning, in the years to follow, to organise study visits abroad for CAFD students.

Introduction

The Academy of Sport and Leisure Studies (ASL) was officially inaugurated at The University of Trinidad and Tobago (UTT) on August 25, 2007 with a mission to develop “academic and sporting skills and move from recreational participation to competition and excellence”. In order to achieve this, the University utilises five main pathways: High Performance Athletics, Academic Programmes, Recreation, Sport Facilities and Leisure.

Short to Medium Term Goals

- The preparation of student-athletes who will represent The University and Trinidad and Tobago nationally, regionally and internationally
- The development of a cadre of athletes who are not only well educated and well mannered but professional and meticulous in the deliverance of their duties
- The development of collaborative relationships/ alliances with selected national and international sporting organisations and universities
- The delivery of academic programmes which cater to the challenging demands of a student-athlete
- The development of an Inter University sporting system which focuses on Inter University cohesion
- The inclusion of national and regional communities through education and sport services delivered by ASL
- The construction of modern facilities which will be suitable for High Performance training, Recreation and Academics

Athletic Preparation

The inauguration on August 25, 2007 focused mainly on our High Performance Programme which provides world class services that will assist potential national athletes to undertake educational, vocational and personal development opportunities while pursuing and achieving excellence in sport. The pathway of High Performance is integral to the



Mr. Kenneth Butcher

Executive Manager, Academy of Sports and Leisure Studies

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overall mission of ASL as the student-athletes who follow this pathway are those who will be at the competition and excellence spectrum of ASL's Mission.

Elements of the High Performance Programme include:

A) Scholarships – In the pursuit of world class services to achieve our mission, ASL in the first year has offered students athletic scholarships to attend the University.

A total of 110 student-athletes in ten disciplines of sport have been awarded scholarships in the following disciplines: Football – 17; Cricket – 22; Netball – 15; Chess – 4; Swimming – 12; Volleyball – 12; Rugby 7's – 8; Boxing – 8; Table Tennis – 11 and Golf – 1. In 2008 the number of scholarships increased to 132 in 12 disciplines of sport. These scholarships/world class offerings include the following components:

- i) **Tuition:** In accordance with the GATE programme, tuition fees of the student-athlete is paid by the Government. The expenses covered by ASL include all other costs associated with registration and mandatory fees and this service is available to student-athletes classified as full-time UTT students.
- ii) **Accommodation:** All student-athletes who are on scholarship at the University are housed at the Olera Heights two-bedroom unit complex in San Fernando, Trinidad and Tobago of which ASL occupies two of the eight buildings on the compound. Each building is seven storeys high with four two-bedroom apartments per floor. The apartments are fully furnished with all amenities needed for comfortable living and therefore maximum performance.
- iii) **Transportation:** ASL provides transportation for our student-athletes to attend all their necessary classes and training sessions. The student-athletes are shuttled from Olera Heights to their respective Campus destinations daily.

iv) **Books:** A key component in the equation of being a great athletic student is having the necessary books to study as well as having the necessary gear on the field or court of play. As a result, all the necessary tools for athletic success in the classroom is provided.

v) **Meals:** Good nutrition and a balanced diet help to keep the athletes well prepared for both the challenges they may face in the classroom and on the field. Meals are currently provided and improvement plans include the recruitment of a full-time sport nutritionist on board as well as more modern and convenient dining facilities.

vi) **Stipends:** The final factor is the inclusion of stipends which are paid to the student-athletes on a monthly basis to cover other supplementary expenditures they may have and to encourage them to adopt a habit of saving.

B) Coaching – Top local as well as international coaches are being sourced, and to this end the University has already hired coaches from Cuba for Chess and Volleyball, China for Table Tennis, USA for Basketball and Canada for Rugby Sevens. Local coaches in cricket include former West Indian cricket players Messrs Toney Gray, Larry Gomes and Mervyn Dillon; and former national representatives Everald Gally Cummings in Football, Paul Newallo in Swimming, Bridget Adams in Netball, and Vicki Boodram in Boxing.

Support Services in the form of Athletic Trainers and a Massage Therapist are already on board, as well as the access to medical treatment. The services of a Sport Psychologist and additional support staff are being negotiated for recruitment in the short term.

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The University has recently signed MOUs with Loughborough University in Leicester, United Kingdom and the local Ministry of Sport and Youth Affairs and has developed relationships with Cuba and Australia in promoting the development of its objectives. At present there are Cuban Professors working with the ASL as well as the Trinidad and Tobago Boxing Association in the development of Boxing Coaches, where joint coaching certification between our Cuban partners and the University will certify a number of coaches in the latest techniques.

for the graduates of the Sport Studies Certificate. The Bachelor's comprises four main majors which are: Sport Management, Sport for Development, Sport Science and Technology and Physical Education.

SUCCESS

The Students, University Campuses and Communities, Education and Sport Services (SUCCESS) is the Unit of the ASL that is responsible for recreation,



O'Meara Campus, Arima

Academic Programmes

In 2007, the University offered for the first time a one-year Certificate in Sport Studies. This Certificate combined both theory and practical courses which were essential for success. The programme centres on the teaching of various disciplines of sport and, as a result, a graduate of the Sport Studies Certificate would have both practical and theoretical knowledge in the fields of Sport studied. The entry requirements for the Certificate in Sport Studies are five CXC subjects including Math, English and Science (or Physical Education).

In 2008, the Bachelor's Degree in Sport Studies has been introduced as a seamless continuum of study

intra/inter campus activities, inter university activities and communities. In 2007 the SUCCESS Unit involved all Campuses in sporting activities from Students' Sport to Intra and Inter Campus leagues. Several projects were also undertaken within communities from Cricket Development Programmes to Community Rugby and Women's Sports.

In 2008, the SUCCESS Unit began working with other Universities in the formation of a Tertiary Level League. Its work has borne some fruit with the 2008 Football and Netball Leagues which include the University of the West Indies, COSTAATT, TTHTI and the University of Southern Caribbean participating alongside the University in a Tertiary League administered by ASL.

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Facilities

ASL has, since its inauguration, faced several challenges with regard to sporting facilities. These facilities not only relate to high performance but also recreational and academic. In the short term through a Memorandum of Understanding with the local Ministry of Sport and Youth Affairs, ASL has utilised the national sporting facilities; however, because these facilities are in such high demand by other national stakeholders, it has proven almost impossible to get a set schedule and, as a

football and cricket fields. Work on other campuses is also in progress, with respect to the installation within the next 18 months of the latest in gym and exercise facilities, campus recreational equipment and centres for academic study.

Conclusion

The Academy of Sport and Leisure Studies has been designated the Secretariat for the Caribbean by the International Council for Physical Health Education



TALIAH WILSON

Year I, Diploma in Computer Engineering

"I'm a full-time student at The University of Trinidad and Tobago (UTT). I am very active in sports and as a result I was awarded a Scholarship from UTT in the High Performance Programme. Currently I am pursuing my diploma in Computer Engineering at the San Fernando Technical Institute Campus.

UTT has given me the opportunity to further my Tertiary Education while being an elite athlete at the same time. It has also given me an opportunity to create history in Trinidad and Tobago, also being one of the first persons to receive a scholarship in Netball. With this opportunity I can now contribute to the development of Netball in Trinidad and Tobago."

result, several manpower hours are lost either through travelling to far-reaching facilities' locations or not being able to undertake training as scheduled.

At the end of 2007, several tenders were requested for the construction of new sporting facilities on the campuses. In March 2008 work began on the construction of both a football and a cricket field at the O'Meara Campus which is expected to be opened in November 2008; and the award of a contract to develop the University's first indoor facilities at O'Meara is expected before the end of 2008. Early in 2009 will therefore see the University's first indoor facilities with the latest fitness gym and state-of-the-art

Recreation-Sport and Dance (ICPHER-SD) and has also been made the official training centre for the International Alliance for Youth Sport. These two platforms will allow for research work to be publicised and for the interchange of information on world platforms.

Introduction

UTT introduced in June 2008 the new position of Vice Provost, Research and Postgraduate Studies. This is in keeping with the University's mission to be both future driven and sustainable, a University with a mission for scholarly teaching, enterprise and entrepreneurship.

UTT has the mission and aspiration to be the “cradle of innovation” and centre for value added research and development for the entire Caribbean region. A forward-looking comprehensive University that rewards innovation and is built on the spirit of discovery, enterprise and is geared to be:

- An all-inclusive, responsive and sustainable Tier I University
- The engine for progress, development and economic prosperity
- The training ground for young Researchers and future Entrepreneurs
- The training field for life-long learning, extended training and skills development
- The facilitator and promoter of ethical integrity and social values

UTT focuses on current and future needs of the people of Trinidad and Tobago. Initially, the programmes focused on engineering and technology to satisfy the expressed needs of our energy and industrial sectors which distinguish Trinidad and Tobago from the region.

Through its Research and Development activities, UTT brings and keeps Trinidad and Tobago in the vanguard of engineering and technology in niche areas of key importance to the nation, such as natural gas.

Ever mindful of its role as a pioneer in the area of research and development, the Office of the Vice Provost, Research and Postgraduate Studies continuously seeks to engender the mission of UTT. To achieve this mandate, the Vice-Provost's Office focuses on several R&D programmes which are executed by UTT's Centres for Learning and Research.

UTT realises that 'Re-Search' is a continuous process with overlapping scholarships of Discovery, Integration, Application and Dissemination. UTT's objectives of scholarly teaching, student-centred learning and problem-based learning is interwoven with the need to Create, Disseminate, Integrate and Apply knowledge with the



Professor Adel Sharaf

*Vice Provost, Research and Postgraduate Studies
and Professor of Energy Systems*

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added mission to be entrepreneurial, commercial, and market-driven.

The need for establishing International Research links and Academic channels requires sustainable effective research excellence and competitive edge. UTT realises that Value Added Research and Development is the engine of employment, prosperity and progress.

Graduate Studies Programme

UTT offers several Graduate programmes of study leading towards the MSc, MHA, M.Phil and Ph.D Degrees. The number of students (over 250) enrolled as at September 2008 and those graduated (37) for the academic year 2007-2008 are presented by subject area below in Tables 1 and 2 respectively.

Table 1 : Graduate Students enrolled as at September 2008

Centre of Study	Programmes		
	M. Sc	M. Phil	Ph. D.
Industrial Innovation, Entrepreneurship and Management	18		
Information and Communication Technology	58		6
Petroleum Engineering	12	1	2
Environmental Science and Management	47		
Health Administration (MHA)	44		
Maritime Management	15		
Natural Gas Institute of the Americas		2	5
Literary and Cultural Studies		1	3
Education			13
Environmental Studies; Science and Management		2	4
Genealogical Research			1
Carnival Studies			1
Manufacturing Engineering			3
Mechatronics			3
Biomedical			1
Agriculture			1
Process & Utilities Engineering	4		3
Health and Safety			1
Total Number of Graduate Students enrolled	198	6	47

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Table 2: UTT's Students who Graduated for the Academic Year 2007-2008:

Centre of Study	Programmes		
	Master's	M. Phil	Ph. D.
Industrial Innovation, Entrepreneurship and Management	19		
Petroleum Engineering	18		
Total Graduate Students for 2008	37	-	-



KYLE CHANG

Year 2, Diploma in Process Utilities

"At UTT, I am pursuing my goal of becoming a chemical engineer. I am registered in the three-year Diploma in Process Utilities programme.

I specifically chose UTT because of its close ties with the industries of Trinidad and Tobago and international institutions. I saw opportunities through UTT that would help me gain the necessary knowledge – as well as the experience through its 'Co-op' arrangement with the nation's industries, for me to attain 'engineer status'.

So far UTT has encouraged me to open my understanding about the world's resources and the way these resources are made useable in everyday life. UTT also encourages the constant practice of teamwork via various group projects and assignments. I have also been granted the opportunity of socialising with many colleagues who share similar goals – foreseeing the potential that others and myself are capable of using to manage the world's resources wisely."

Summary of Ongoing Research Projects

Table 3 presents a summary of the ongoing research projects as at September 2008.

The opportunity is taken to outline in some detail some of the Research Projects currently being undertaken by the Centre for Information and Communication Technology (ICT):

i) Energy Efficient Medium Access Control Protocol for Wireless Sensor Networks Featuring Bursty Traffic Flows.

Energy efficiency is an important design goal for wireless sensor networks (WSNs) due to the limited power

available to each node. The wireless radio is a major energy consumer and is often the focus of energy conservation mechanisms since nodes communicate along a shared medium (the air interface). The medium access control (MAC) layer of the communication protocol stack arbitrates access to the communications link by manipulating the sleep, listen, transmit and receive states of the radio transceiver. In this work we propose a new energy efficient MAC protocol which is specifically designed for bursty traffic networks that experience long periods of inactivity interrupted by unplanned (and often short-lived) periods of high traffic loads.

ii) Performance Measure and Optimisation of SIP.

The Session Initiation Protocol (SIP), the Internet protocol for establishing sessions between two or more

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parties is becoming the protocol of choice in uses such as Voice over IP, instant messaging and many others. So much so that heavyweight companies like Microsoft, Yahoo, INC, and America Online have made SIP a part of instant messaging.

SIP is designed to be a key component for integrated data and voice IP networks and is considered by some the Protocol of choice in 3G wireless networks and phones. Manufacturers of IP Public branch exchange equipment, CISCO systems, INC are putting SIP into hardware while media gateway makers are adding it to network cores.



The proposed research work seeks to measure the performance of the Session Initiation Protocol.

UTT's Maritime Campus 2008

iii) RFID Technology within the Public Transportation System in T&T.

This research work intends to show the benefits of incorporating Wireless Communication Technology as a means to improve the efficiency of the Public Bus Transport System within Trinidad and Tobago. Radio Frequency Identification (RFID) would be the Wireless Communication Technology researched and used to develop a proactive system that would greatly benefit the travelling public. A mathematical traffic model would be developed, implemented, and simulation results would be presented to show how this idea can become a reality in a broader scope.

Programme	Start Date	Research Topic	Supervisor(s)
Ph.D Process and Utilities Engineering	2006 September	Asphalt and asphalt materials	Dr. James Speight
Ph.D Process and Utilities Engineering	2006 September	Techno-economic evaluation of Trinidad tar sand	Dr. James Speight
Ph.D Process and Utilities Engineering	2007 September	Application of lining fibres as a composite additive in concrete	Mr. Rodney Jagai / Dr. Angelus Pilgrim / Kishore Deonarine
Ph.D Cultural Studies	2006 September	The changing dynamics of some major festivals and rituals brought by East Indians to Trinidad and Tobago and their counterparts in India	Prof. Brinsley Samaroo
Ph.D Cultural Studies	2008 February	The Indian film industry in Trinidad and Tobago: The oral and musical tradition	Prof. Brinsley Samaroo
Ph.D Genealogical Research	2008 February	To develop and explain a methodology for tracing the indentured East Indian ancestors of present day people of Trinidad and Tobago and its diaspora	Prof. Kenneth Ramchand
Ph.D ICT	2006 September	Haptics biometric computational intelligence	Dr. Ziad Sakr
Ph.D ICT	2006 September	Parallel processing advance computer	Dr. Mansour Assaf
Ph.D ICT	2006 September	Enhancements in wide band code division multiple access Databases	Dr. Yufei Wu
Ph.D ICT	2007 September	Great computing emerging technology with special reference to process and utilities application	Dr. MV Padmini
Ph.D ICT	2007 September	To develop a robotic device for applications in the manufacture of musical instruments in the idiophone class	Dr. Mansour Assaf
Ph.D Manufacturing Engineering	2007 September	To develop a walking, biped, sporting robot	Prof. Prakash Persad
Ph.D Manufacturing Engineering	2007 September	The development impact of micro, small and medium enterprises: A case of Trinidad and Tobago and Jamaica	Prof. Prakash Persad
Ph.D Manufacturing Engineering	2007 September	Preliminary investigations into the biodegradation of heavy oils	Prof. Denise Thompson
MSc Process & Utilities Engineering	2005 September	The optimisation of heat exchanger networks using pinch technology to improve energy efficiency in a process plant	Dr. James Speight
MSc Process & Utilities Engineering	2005 September	A theoretical Metabolic flux analysis of the energy requirements in <i>Methylococcus capsulatus</i> (bat) for production of single cell protein	Prof. David McGaw
MSc Process & Utilities Engineering	2006 September	Water purification	Prof. John Villadsen / Mr. Timothy Hobley
MSc Process & Utilities Engineering	2006 September		Prof. Adel Sharaf

Programme	Programme	Research Topic	Supervisor(s)
NGIA - MPhil	2007 September	Developing a Macroeconomic Model of the Trinidad and Tobago Economy to Determine the Contribution of the Energy Sector Towards Sustainable Growth	Dr. H.I. Furlonge
NGIA - MPhil	2007 September	Development of an Optimisation Modelling Approach for Exploiting Uncertainty and Opportunities in the LNG Supply Chain	Dr. H.I. Furlonge
NGIA - PhD	2007 September	Evaluating Storage and Leakage Scenarios for Carbon Dioxide Sequestration in Trinidad and Tobago	Dr. S.L. Bryant
NGIA - PhD	2007 September	A Strategy for CO ₂ Emission Mitigation in T&T (CO ₂ Inventory and Techno-economic Comparisons of Capture Technologies)	Dr. H.I. Furlonge and Dr. R. Williams
NGIA - PhD	2007 September	Selection and Screening of Surfactants for Enhanced Recovery in Gas Condensate Reservoirs	Dr. H.I. Furlonge
NGIA - PhD	2007 September	Proposal for an Advance Modelling Approach for Studying the Behaviour of Gas Prices in Regional Markets	Dr. H.I. Furlonge
M.Phil - Literary and Cultural Studies	2007 September	Novels of Lawrence Scott	Prof. Kenneth Ramchand
M.Phil/PhD - Petroleum Engineering	2007 November	A research analysis of the petroleum and natural gas reserves in Trinidad and Tobago	Dr. James Speight
Ph.D - Petroleum Engineering	2008 February	Modelling heavy oil behaviour in Guapo thermal scheme, Trinidad	Dr. James Speight
Ph.D in Mechatronics	2008 April	To design, fabricate and test a bowling arm	Prof. Prakash Persad
NGIA - PhD	2008 May	A Review of Worldwide Potential Extraction of Natural Gas from Hydrates and Possible Applications in Trinidad and Tobago, Natural Gas Institute of the Americas Research	Dr. H.I. Furlonge
Ph.D in Education	2008 May	A proposal to study the relationship between reform of the Ministry of Education (decentralisation) and reforms in Teacher Education in Trinidad and Tobago	Prof. Theodore Lewis
Ph.D in Education	2008 May	Investigating the problem-solving strategies of students in the upper primary school	Dr. Betty Mc Donald
Ph.D in Education	2008 May	Leading and Managing school health practices: A pilot study of selected primary schools in the St. George East Education Division	Dr. Emmanuel Senah

Programme	Programme	Research Topic	Supervisor(s)
Ph.D in Education	2008 May	Teachers' Perceptions of teaching as a Profession in Trinidad and Tobago – An investigation into individual realities	Prof. Theodore Lewis
Ph.D in Education	2008 May	An investigation of teachers' beliefs and practices of classroom assessment in mathematics at the infant level	Prof. Theodore Lewis
Ph.D in Education	2008 May	Quantitative Research Methods: Learning Difficulties and Negative Attitudes of Importance among university students of Trinidad and Tobago	Dr. Rachael Williams and Dr. M.V. Padmini
Ph.D in Education	2008 May	The Have and the Have-nots: Conjoining experience and academia in Early Childhood Care and Education	Prof. Theodore Lewis
Ph.D in Education	2008 May	Demotivation: a link to low achievement in adolescent males	Prof. Jeanette Morris
Ph.D in Education	2008 May	The dynamics of Teacher Empowerment and Curriculum Implementation	Prof. Theodore Lewis
Ph.D in Education	2008 May	Advantages and disadvantages of presentation/teaching of Literature novels (British, Australian and West Indian) in written vs film format	Prof. Kenneth Ramchand
Ph.D in Education	2008 May	A study of teacher professionalism – The reading project in a Tobago Primary School	Prof. Jeanette Morris
Ph.D in Education	2008 May	Teacher Experiences in learning to Integrate technology in Instructional Practice in Trinidad and Tobago.	Dr. Lionel Douglas
Ph.D in Education	2008 May	The influence of teachers' technology training on the integration of technology into secondary schools Trinidad and Tobago	Dr. Lionel Douglas
Ph.D in Environmental, Health and Safety	2008 May	OSH surveillance system: Development of an Occupational Safety and Health Surveillance System for Trinidad and Tobago	Prof. Anthony Joseph
Ph.D in Environmental, Health and Safety	2008 May	Indoor air quality: Investigate indoor air quality of buildings in Trinidad suspected to cause discomfort or illness of the occupants	Prof. Anthony Joseph
MPhil in Environmental Studies	2008 September	Air Pollution and health: The effect of motor vehicle emissions on respiratory health and assessment of the relationship between exposure to motor vehicle emissions and incidence of respiratory diseases	Prof. Anthony Joseph
Ph.D in Environmental Studies	2008 September	Water Management System and Pollution: The management of water production and pollution prevention systems in Trinidad and Tobago.	Prof. Anthony Joseph

Programme	Programme	Research Topic	Supervisor(s)
Ph.D in Environmental Science	2008 September	Air pollution and energy: Landfill emissions and the environment in Trinidad	Prof. Anthony Joseph
Ph.D in Health and Safety	2008 September	Safety and health education: The contribution of health and safety education to the welfare of the craft person, in particular the jeweller	Prof. Anthony Joseph
Ph.D in Biomedical Engineering	2008 September	Synthesis of novel compounds for the purpose of cancer and diabetes therapy	Dr. Varma Rambaran
Ph.D in Mechatronics	2008 September	Computer screen-based fluid flow system simulator	Prof. Prakash Persad
Ph.D in Mechatronics	2008 September	Robot capable of playing tenor pan	Prof. Prakash Persad
Ph.D in Petroleum Engineering	2008 September	Phase behaviour of crude oil	Dr. James Speight
Ph.D in Information and Communication Technology	2008 September	Knowledge discovery	Dr. Yufei Wu / Prof. Denise Thompson
Ph.D in Agriculture	2008 September	Biotechnological approaches to solution fertilisation	Dr. Musa Mohammed
Ph.D in Cultural Studies	2008 September	Culture and identity in indo-Trinidadian music within a multi-racial society	Prof. Brinsely Samaroo / Dr. Kim Johnson
Ph.D in Carnival Studies	2008 September	Origin and development of Dimanche Gras show	Dr. Hollis Liverpool
Master of Philosophy in Environmental Science and Management	2008 September	The impact of flooding on water quality	Prof. Anthony Joseph

iv) Design for testability improved methodology for embedded IP core-based Systems.

Implementation of fault-testing environment for embedded core-based digital circuits is a challenging endeavour. The subject paper aims at developing a test environment for embedded digital cores. There are available methods to ensure correct functionality, in both hardware and software, for embedded core-based systems but one of the most used and acceptable approaches to realise this is through the use of design for testability. Specifically, applications of design for

vi) SMS sending Gateway implementation.

The system can be easily integrated into any business solution (i.e. flight/train/bus reservation/schedule/status/enquiry). This system is so designed as to allow a Personal Computer application to send SMS messages easily. It would act as a link between the service provider and the customer. It aims to build a channel of communication between the database installed in a computer and the customer who is the end beneficiary. The system comprises a Personal Computer that is connected to a communication device (i.e. a mobile phone) using



Professor Michael Smith (ICT and DigitalMedia Studies) conducting an outreach session at the Graduation Pavilion, O'Meara Campus, UTT, 2008.

testability methodology in testing embedded cores are considered in the research work, with specific implementations being targeted towards ISCAS 85 and ISCAS 89 benchmark circuits.

v) Software Partitioning and Parallel Programming using the Cell Broadband Engine.

A key problem for effective unit testing is the difficulty of partitioning large software systems into appropriate units that can be tested in isolation. In this work we propose an approach that identifies control and data interdependencies between software components, and divides the source code into units that can then be tested in isolation. The proposed technique would be implemented and tested using the Cell Broadband Engine.

an adapter. The relevant database application in the computer processes the required message and transfers it to the communication device which, in turn, sends it as an SMS message to the customer.

Selected Notable Success Stories and Student Achievements (2008)

Some of the Graduate Students' achievements and success stories encompass the following:

Centre for Information and Communication Technology:

Andrea Kanneh and Dr. Ziad Sakr

A Haptic and Fuzzy Logic Controller for Biometric User Verification – Electronics, Robotics and Automotive

THE SCHOOL OF POSTGRADUATE STUDIES, RESEARCH AND DEVELOPMENT

Mechanics Conference 2008 (CERMA 2008) – Cuernavaca, Morelos, Mexico during September 30 – October 3, 2008

Biometric User Verification Using Haptics and Fuzzy Logic – ACM Multimedia Conference 2008 – Pan Pacific Hotel, Vancouver, BC, Canada, October 27–31, 2008

School for Cognition, Learning and Education:

One of UTT's instructors, Themesa Neckles, was awarded the Vice-Chancellor's (of the University of Sheffield)

Mechatronics Group:

Nadine Sangster – Graduated with Ph.D in Mechanical Engineering with High Commendation from the University of the West Indies.

Professor Prakash Persad and Ronnie Bickramdass – Winners of the Prime Minister's Invention and Innovation Award 2007.

Professor Prakash Persad – Awarded the Bharat Samman



The Tabla-Playing Robot of UTT's Mechatronics Laboratory

The tabla is a pair of drums widely used in Indian classical and contemporary music. It is the most complex drum system and an extensive body of theory and practice is associated with it.

It takes a minimum of seven years of continuous practice to achieve the expert level. To date most attempts at reproducing the sound has been done electronically, and thus this tabla-playing robot represents a first in developing a bio-mimicking robot to play the tabla.

55

scholarship to pursue doctoral studies full time at the University of Sheffield in the UK. This was open to the Caribbean and Themesa was chosen above all other applicants.

M.Phil Research Area / UTT History – First Oral Defence:

There was one significant success story in the M.Phil research area. In April of this year, student Jemilla James successfully defended her research thesis before Prof. McGaw, Prof. John Villadsen and Prof. Timothy Hobley (the latter two of the Danish Technical Institute). The thesis related to a biomass research project and she is now in Denmark doing further work on the project. This was the first oral defence in UTT's history.

Pravasi Award by the NRI Institute, New Delhi, India for Contribution to Country and Culture, January 2007.

Successfully coordinated the 1st Annual Mechatronics and Robotics Secondary School Outreach Programme held at UTT in June 2008.

The Natural Gas Institute of the Americas (NGIA)

In a subsequent section (section 10.0), a detailed review of the work of the NGIA is given. In Annual Reports to follow, detailed reviews of the work of other Schools/Centres/Institutes will be provided as the thrust of the University's operations grows in maturity.

Introduction

The Natural Gas Institute of the Americas (NGIA) was launched by the University on August 23, 2006. It is dedicated to industry-relevant natural gas research in the country. The concept behind NGIA is that of a “virtual” institute within UTT. This means that it will not operate as a stand-alone entity. Rather, it will draw on the resources within the different Centres of the University, and from the Alliances of the University.

In accordance with its Mission, UTT has identified research as a key priority, leading to the formation of an Institute dedicated to research and development (R&D) in the field of natural gas – the Natural Gas Institute of the Americas.

In his address at the launch of NGIA, Senator Dr. the Honourable Lenny Saith, Minister of Energy and Energy Industries, highlighted Trinidad and Tobago’s international standing in the global gas business. He noted that the “Natural Gas Institute of the Americas assumes greatest significance as it provides the platform for a quantum leap from simply being end-users of energy technology to the elite realm of inventors and innovators.”

The NGIA seeks to add value to the economy of Trinidad and Tobago (T&T) by combining natural gas and human resources in a way that brings maximum returns on innovativeness, entrepreneurship and sustainability. It is anticipated that the success of NGIA will have far-reaching implications for the industry, and indeed for the wider economy. It is further envisioned that its reach will extend into the “Americas”, as it seeks to provide technological solutions to meet the specific needs of the region.

Some of the key strategies being adopted in our efforts to be at the forefront of natural gas-related research and expertise in the Atlantic Basin region are depicted in Figure 1.

Outline of Research Activity

NGIA is developing research programmes relevant to our largely gas-based economy. Whilst the focus is directly on natural gas, more general energy-related

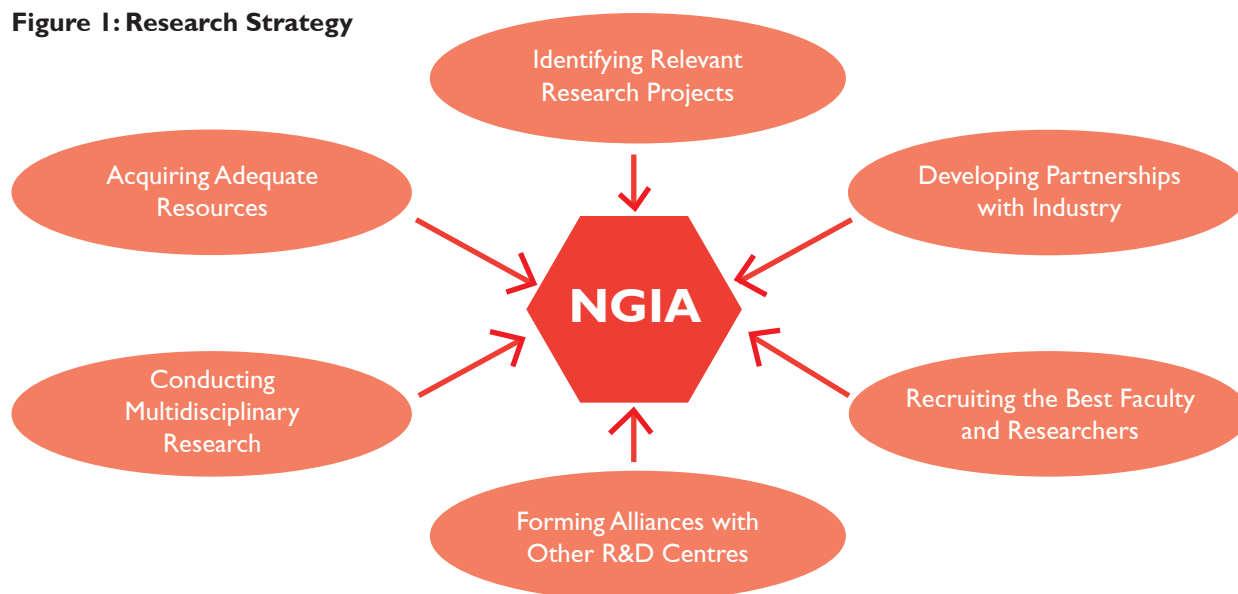


Dr. Haydn Furlonge

Associate Professor, Natural Gas Institute of the Americas (NGIA)

issues are also being addressed. Technologies are also being developed that have implications for other countries in the Atlantic Basin region. Fundamental as well as Applied Research is undertaken by a multidisciplinary team of researchers.

Figure 1: Research Strategy



The current research activity of NGIA may be categorised into four Research Groups as shown in the schematic in Figure 2, covering the the entire gas value chain:

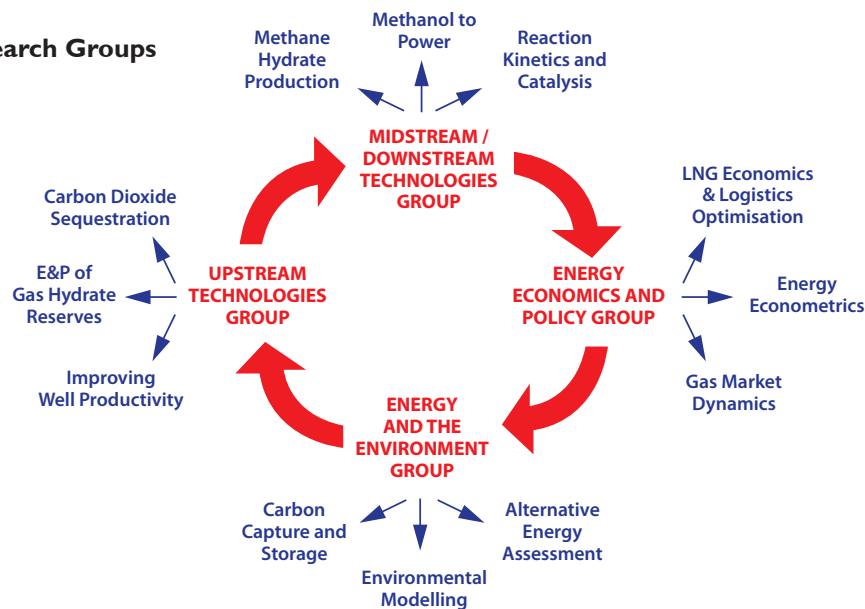
1. **Upstream Technologies** – focuses on innovations that support exploration and production of hydrocarbons in a technically feasible and commercially viable way.
2. **Midstream/Downstream Technologies** – covers the development of new technologies for transporting and utilising natural gas, including novel or enhanced processes and the application of advanced tools for process design, dynamics and control. NGIA commenced its work in earnest in March 2007.

3. **Energy Economics and Policy** – studies energy economics at the project and macro levels, and market, commercial and gas policy developments, using the latest decision modelling tools and solution techniques,
4. **Energy and the Environment** – addresses the interface between energy consumption and the environment, by assessing the impact and proposing mitigation measures and technological solutions.

Research at NGIA is conducted mainly at the postgraduate level leading to the award of research degrees at the Master of Philosophy and Doctor of Philosophy levels. However, certain course components of the Bachelor and Master of Science programmes are also integrated into NGIA's research activities. By October 1, 2007 nine postgraduate researchers were recruited, on the basis of a mix of Scholarship, Research Assistant and Instructor positions. The pool of researchers comprises persons with a wide range of disciplines including petroleum, process and mechanical engineering, chemistry, environmental science, economics and statistics.

- Reservoir Engineering and Simulation – applications include natural gas production from hydrate reservoirs, miscible gas injection, enhanced oil recovery processes, gas condensate reservoir studies, CO₂ sequestration, reservoir characterisation, foam mobility control, new generation reservoir simulator development, cluster computing, and wettability alteration in naturally fractured reservoir.

Figure 2:
Schematic of Research Groups



1. Upstream Technologies Group

This Group focuses on innovations that support exploration and production of hydrocarbon in a technically feasible and commercially viable way, with emphasis on applications in Trinidad and Tobago's gas province.

Research Interests

- Carbon Dioxide Sequestration – to examine the geological feasibility of CO₂ sequestration in Trinidad and Tobago as a means of emissions mitigation and enhanced oil recovery (in collaboration with the University of Texas at Austin)

Ongoing Projects

i) Research Project: Evaluating Options In Trinidad and Tobago For Carbon Dioxide Sequestration and Enhanced Oil Recovery

Researchers: Mr. David Alexander, Dr. Steven Bryant (UT – Austin)

Background

As T&T becomes increasingly industrialised, CO₂ production continues to grow. This trend may be constrained in the future either voluntarily or by government regulation. Carbon dioxide sequestration into oil and gas depleted reservoirs or saline aquifers is one option in solving this problem, but the risk of leakage from these storage areas needs to be investigated.

Objective

This project seeks to examine the geological and economic feasibility of carbon dioxide sequestration in T&T as a means of enhanced oil recovery and emissions mitigation.

ii) Research Project: Improving Well Productivity in Gas Condensate Reservoirs in Trinidad and Tobago

Researchers: Ms. Robin-Simone Rocke, Prof. Mukul Sharma (UT – Austin), Prof. Gary Pope (UT-Austin)

Background

The relative permeabilities of sandstone and limestone rocks have been measured using various corefloods with differing flow rates and initial water saturations. Screening of the surfactants using different solvents has resulted in the increase of both gas and condensate relative permeability without compromising the interfacial tension. It has been found from phase behaviour data, that methanol and higher alcohols together with surfactants work with maximum efficiency in removing water and condensate liquids.

Objective

This project seeks to evaluate the feasibility of increasing gas relative permeability in cores via the use of surfactants and solvents. These surfactants play an important role in minimising the impact of condensate accumulation below the dew point pressure and hence the restoration of well productivity.

iii) Research Project: Potential for the Production of Natural Gas from Methane Hydrate Reservoirs in Trinidad and Tobago

Researchers: Mr. Godfrey Ransome, Dr. Haydn I. Furlonge

Background

Methane hydrates are considered to represent an enormous potential energy resource for long-term gas supply throughout the world. However, there is insufficient knowledge and research to categorically determine how methane hydrates can be exploited both technically and commercially. Trinidad and Tobago is considered to have significant resources of methane hydrates in the deep water blocks off the east

coast and it would be opportune that adequately funded and comprehensive research be initiated in this field.

Objective

This project aims to perform geological, technical and economic assessments of the possibility of extracting natural gas from methane hydrates in Trinidad and Tobago and make recommendations for the exploitation of this resource in the future.

2. Midstream/Downstream Technologies Group

The scope of this Research Group covers the development of new technologies for transporting and utilising natural gas, including novel or enhanced processes employing laboratory tests and simulation tools for studying process design, dynamics and control.

Research Interests

- Gas Transportation Technologies - comparison of various methods for gas transportation in niche applications, e.g. Methanol to Power, LNG, CNG, Pipeline, Trucks, Gas to Wire
- Gas Conversion Technologies - technical and economic analyses of emerging technologies such as Natural Gas Hydrates, Gas to Liquids (GTLs), Di-Methyl Ether (DME), fuel cells, Gas-to-Methanol-to-Olefins, methane thermal decomposition, and use of carbon dioxide as a building block for organic compounds
- Reaction Kinetics and Catalysis - to investigate, through laboratory testing and simulation, the reaction mechanism and kinetics that are essential for system designs and optimisation of catalytic hydrocarbon-related processes
- Chemical Process Modelling, Control and Optimisation - application of the latest tools for process synthesis, design and operation

Ongoing Projects

i) Research Project: Feasibility of Methanol as a Fuel for Power Generation

Researchers: Mr. Renique Murray, Dr. Sharaaz Hosein, Dr. Haydn Furlonge and Mr. Vishard Chandool (Methanol Holdings T'dad Ltd)

Background

Methanol has traditionally found a number of uses in the petrochemical industry but its use as a fuel has been somewhat limited due to its relatively low calorific value. However, recent times have seen a renewed interest in methanol to power applications as it offers a much cleaner solution to the growing appetite for energy in an environmentally-conscious world. The key issues here are that the transportation and infrastructure installation costs for the nearby markets of the Caribbean islands are significantly reduced as compared to

Background

The transportation of natural gas over long distances currently requires companies to build very expensive gas liquefaction (-160°C), re-gasification and LNG tanker facilities. An alternative to this is to convert the gas to a hydrate and transport the hydrate at -20°C . This significantly reduces the cryogenic and tanker costs. While the compression ratio for hydrates is lower, 200:1 compared to 600:1 for LNG, it may still be much more economical to use hydrates if there was a reliable method to generate it in a form where it could be pumped and transported.

Photo of Methanol to Power Demonstration Plant on the Compound of Methanol Holdings Trinidad LTD (MHTL) Trinidad and Tobago



that of other means of transporting natural gas; such as LNG pipeline and CNG.

Objective

To perform detailed technical and economic feasibility of methanol to power using a standard gas turbine generator with minor modifications, focusing on meeting the fuel needs of Caribbean territories.

ii) Research Project: Development of a Novel Method to Generate Gas Hydrates for Transportation of Natural Gas

Researchers: Prof. Mukul M. Sharma (UT-Austin), Dr. Nishawn Hanif and Dr. Ejae John

Objective

This project seeks to develop a technology that will allow the generation of hydrates in a form that can be transported easily in bulk carriers with particular focus on supply from T&T to regional markets

3. Energy, Economics and Policy Group

This Group examines energy economics at the project and macro levels, as well as, commercial and gas policy developments, using advanced decision modelling tools and solution techniques.

Research Interests

- Macroeconomics and Sustainability - to develop an in-depth understanding of the economic contributions of

the energy sector using econometric modelling tools for strategic planning purposes

- Energy Market Dynamics and Energy Derivatives – development of quantitative models for understanding and predicting market prices for gas and gas-related products by studying key drivers and their impact
- Project Economic Modelling and Risk Analysis – development and application of economic and risk analysis tools for evaluation of projects
- Supply Chain Logistics - LNG shipping logistics/inventory management modelling so as to minimise delays, demurrage, capitalise on market price dynamics (through swaps/spot sales), and maximise netback returns
- Taxation Regimes and Fiscal Incentives - evaluation of the efficiency and adequacy of the fiscal and regulatory regimes for natural gas
- Resource Management - examination of policies for management of depleting natural resources using quantitative analytical tools taking into account reserves forecasting, demand uncertainty, taxation models and sustainability.

Ongoing Projects

i) Research Project: Econometric Modelling the Energy Sector's Contribution to the Economy of Trinidad and Tobago

Researchers: Mr. Edward Bahaw, Dr. Haydn Furlonge

Background

The energy sector in Trinidad and Tobago has had a long and progressive history. Over recent years in particular the sector has expanded quite robustly and at present it accounts for about 45 per cent of National Gross Domestic Product. Given the importance of this sector to the economy it is critical to develop an in-depth understanding of the relationship between both internal and external parameters and their impact on the local economy.

Objective

This project aims to analyse the energy sector's contribution to the economy of Trinidad and Tobago and to formulate an econometric model linking various key parameters for making future projections.

ii) Research Project Proposal Topic: Advanced Modelling Approaches for Studying Gas Market Dynamics

Researchers: Mr. Stein Trotman, Dr. Haydn Furlonge

Background

The market for natural gas and its derivatives is very dynamic or even chaotic. This uncertainty is influenced by various factors including: fluctuating supply-demand balance, technological advances, oil price linkages, competing fuels, regulatory changes, environmental issues and climate. A quantitative approach that captures and analyses all these factors is needed.

Objective

This project will lead to the development of an advanced modelling tool for understanding the behaviour of gas-based products in the global market.

iii) Research Project: LNG Value Chain Optimisation using Advanced Decision Tools

Researcher: Dr. Haydn Furlonge

Background

LNG provides a relatively clean source of energy, and is price-competitive with other fuels for distant markets. LNG has become a vital element in meeting the world's rapidly increasing energy needs. Recently, the LNG industry has been experiencing significant changes with respect to price volatility, market growth, supply increases and infrastructure expansion. To support these developments, fiscal and business models have been evolving at a fast pace. Given these dynamics, it is worthwhile to examine the distribution of economic returns to the various players.

Objective

This project aims to apply advanced decision analysis tools for studying the optimal distribution of value along the LNG Chain from the perspectives of Government and Private Investors in the context of the dynamics of the global LNG business.

iv) Research Project: Development of a Modelling Tool for optimising LNG Supply Chain Logistics

Researchers: Mr. Chad Watson, Dr. Haydn Furlonge

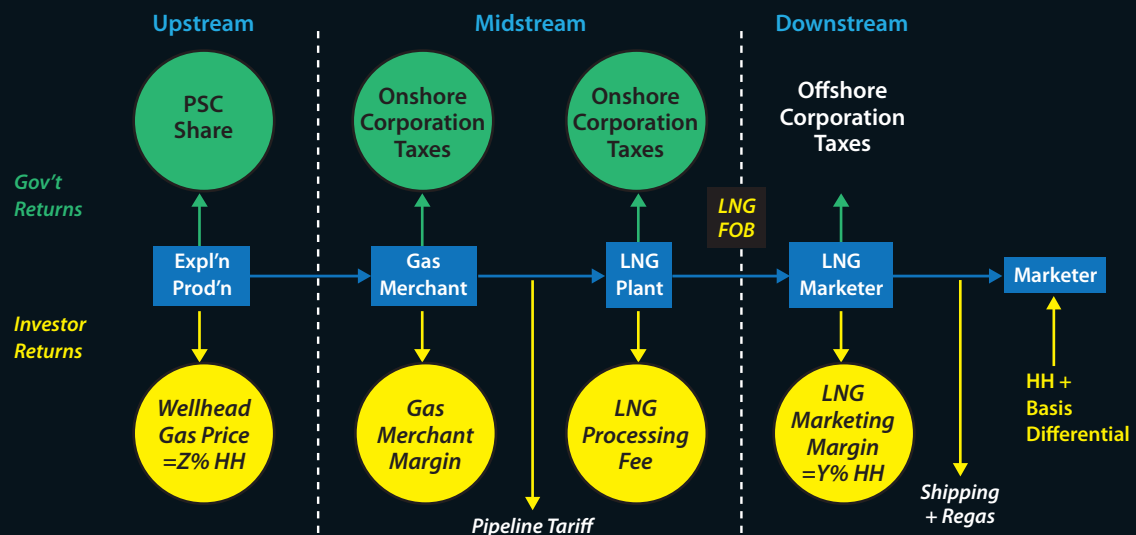
Background

LNG is becoming a growing source of energy demand resulting in significant changes in price volatility, technological advancement and expansions. There is need for the optimisation of the supply chain logistics for maximisation of returns both in the downstream and upstream segments of the LNG Value Chain.

Research Interests

- Environmental Modelling – quantification of greenhouse gas emissions in Trinidad and Tobago and development of a policy for mitigation
- Alternative Energy – technological and economic assessment of alternative/renewable energy sources (e.g. solar, wind, biomass, fuel cells) in the context of sustainable Caribbean energy supply
- Carbon Dioxide Capture and Storage – to investigate the process technology, logistics and economics of carbon capture and storage as a means of emissions mitigation in Trinidad and Tobago.

Integrated LNG Economic Model Schematic



Objective

This project seeks to build an advanced modelling tool for LNG supply chain logistics management taking into account all costs, scheduling constraints, market conditions, and inherent parametric uncertainties.

4. Energy and the Environment Group

This Research Group addresses the interface between energy consumption and the environment, by assessing the impact, and proposing mitigation measures and technological solutions.

Ongoing Projects

i) Research Project: Feasibility of Carbon Capture and Storage in Trinidad and Tobago

Researchers: Mr. Donnie Boodlal, Dr. Haydn I. Furlonge, Dr. Peter Smith, Dr. Rachael Williams

Background

CO₂ is the biggest contributor to greenhouse gases in terms of volume. Since this gas greatly contributes to global warming and CO₂ production in T&T has been increasing significantly over the years, this issue needs to be carefully addressed. Cost effective techniques for capturing and storing CO₂ need to be examined as a means of emissions mitigation.

Objective

This project seeks to study the process technology, logistics and economics of carbon capture and storage in Trinidad and Tobago.

ii) Research Project: Feasibility Study for Biodiesel Production in Trinidad

Researchers: Dr. Ejae John, Dr. Nishawn Hanif, Mr. Steve Seetahal

Background

Global production of biodiesel has doubled in the last two years and is expected to increase significantly in the coming years. This clean burning fuel, which is made from vegetable oil, waste oil or animal tallow, could be used to revive a waning coconut industry in Trinidad and Tobago. Analysis of this particular feedstock as well as the waste cooking oil produced in Trinidad and Tobago needs to be examined to determine whether the appropriate technologies could be utilized to produce biodiesel economically.

Objective

This project seeks to study the process technology, logistics and economics of biodiesel production in Trinidad and Tobago.

NGIA Conferences, Seminars and Publications

NGIA researchers have participated in a number of conferences and seminars since its inception. Conference presentations and papers thus far include:

- Furlonge, H.I., An Integrated Economic Model for Optimising Value Distribution along the LNG Chain, Proceedings of Tobago Gas Technology Conference, Scarborough, June 2007.
 - Boodlal, D. and P. Smith, Carbon Sequestration and Enhanced Reservoir Performance – A Business opportunity for Trinidad (based on M.Sc. IIEM Thesis), Proceedings of Tobago Gas Technology Conference, Scarborough, June 2007.
 - Furlonge, H.I., and V. Chandool, Methanol to Power Demonstration Project, GazChem 2007 Conference, Port of Spain, June 2007.
 - Chandool, V., S. Hosein and H.I. Furlonge, Methanol-fired Demonstration Power Plant for Niche Market Applications, Methanol Institute 5th Annual Methanol Forum, Toronto, October 2007.
 - Furlonge, H.I., Optimal Distribution of Economic Value Under Uncertainty in The LNG Business, International Association for Energy Economics 2008 Conference, Istanbul, June 2008.
- In August 2008, NGIA also launched, under the patronage of the President of UTT Prof. Kenneth S. Julien, a Research Seminar Series, and the following presentations were made:
- Alexander, D., and S.L. Bryant, Evaluating Storage and Leakage Scenarios for Carbon Dioxide Sequestration in Trinidad and Tobago, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Murray, R., S. Hosein and H.I. Furlonge, Investigation of the Potential for Methanol's Use as a Power Generation Fuel for Regional Markets, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Boodlal, D., H.I. Furlonge and R. Williams, A Strategy for CO₂ Emission Mitigation in T&T (CO₂ Inventory and Techno-economic Comparisons of Capture Technologies), NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Ransome, G. and H.I. Furlonge, A Review of Worldwide Potential Extraction of Natural Gas from Hydrates and Possible Applications in Trinidad and Tobago, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Trotman, S. and H.I. Furlonge, Proposal for an Advance Modelling Approach for Studying the Behaviour of Gas Prices in Regional Markets, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Watson, C. and H.I. Furlonge, Development of an Optimisation Modelling Approach for Exploiting Uncertainty and Opportunities in the LNG Supply Chain, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.
 - Bahaw, E. and H.I. Furlonge, Developing a Macroeconomic Model of the Trinidad and Tobago Economy to Determine the Contribution of the Energy Sector Towards Sustainable Growth, NGIA Research Seminar Series, UTT, Point Lisas, August 2008.

THE NATURAL GAS INSTITUTE OF THE AMERICAS (NGIA)

NGIA researchers Donnie Boodlal and Haydn I. Furlonge also made a presentation on September 15, 2008 to Cabinet's Standing Committee on Energy entitled "Towards a Strategy for CO₂ Emissions Mitigation in T&T – CO₂ Inventory and Overview of Capture Technologies".

In addition, a seminar was arranged by NGIA involving presentations by General Electric (GE) International on "Energy Efficiency and Renewable Energy Applications" and "Carbon Dioxide Mitigation and Trading", September 18, 2007, Point Lisas Campus, UTT.

NGIA organised the Tobago Gas Technology Conference 2008 (<http://u.tt/tgtc>), which took place on October 7-10



Staff of the NGIA, 2008.

in Tobago. The theme of this year's conference was "Next Generation Energy Technologies", and the focus was on leading research and recent advances into technologies which drive the energy industry, and on addressing trends in regional and international energy issue.

THE NATURAL GAS INSTITUTE OF THE AMERICAS (NGIA)



DAVID ALEXANDER

Year 2, Ph.D Student in Petroleum Engineering

"I am currently a second year Ph.D Student in Petroleum Engineering with the Natural Gas Institute of the Americas at The University of Trinidad and Tobago. My topic of research is carbon dioxide sequestration and enhanced oil recovery. One economic benefit is that it can be used for enhancing oil productivity in selected fields in Trinidad and Tobago.

This research is being conducted in collaboration with the University of Texas at Austin. UTT provides all the necessary funding and equipment to conduct the research. UTT's alliance with this university enables me to be trained using the latest technologies and world-renowned professors. All other identified training required is supported by UTT. Thus at end of the programme I will be equally qualified when compared to individuals from first world countries. In addition, the University has awarded me a full-time job as an Instructor while my continued studies are being pursued.

I feel very privileged to be working and pursuing my Ph.D with UTT."

The University of Trinidad and Tobago

Financial Statements 2006



TO THE MEMBERS OF THE UNIVERSITY OF TRINIDAD AND TOBAGO

We have audited the accompanying financial statements of The University of Trinidad and Tobago ("the University") which comprise the balance sheet as at September 30, 2006 and the statement of income and expenditure, statement of changes in reserves and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate for the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

TO THE MEMBERS OF THE UNIVERSITY OF TRINIDAD AND TOBAGO (Continued)

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

As explained in Note 19 to the financial statements, no tax liability has been recorded in the financial statements on the basis that the Cabinet of the Republic of Trinidad and Tobago had agreed that the University be accorded certain exemptions from taxation and as such the University is currently pursuing Charitable Organization Status from the Board of Inland Revenue to be exempt from taxation. As at September 30, 2006 the University has not completed this process and therefore is subject to taxation. If this was recorded, there would be a tax expense of \$148,563 in the statement of income and expenditure for the year ended September 30, 2006. There would also be a tax liability of \$252,196 in the balance sheet as at September 30, 2006, with a corresponding reduction in the accumulated reserves at that date of \$252,196.

Opinion

In our opinion, except for the matter explained in the preceding paragraph, the financial statements give a true and fair view of the financial position of the University as at September 30, 2006, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.



Port of Spain
TRINIDAD
November 19, 2008

BALANCE SHEET AS AT SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

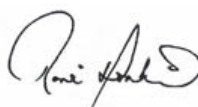
	Note	2006 \$	2005 \$
CURRENT ASSETS			
Inventory		—	35
Accounts receivable and prepayments	3	133,746	55,654
Cash and cash equivalents	4	74,373	100,230
		<u>208,119</u>	<u>155,919</u>
CURRENT LIABILITIES			
Accounts payable and accruals	5	68,855	49,197
Deferred fees	6	15,080	2,536
		<u>83,935</u>	<u>51,733</u>
NET CURRENT ASSETS		<u>124,184</u>	<u>104,186</u>
NON-CURRENT ASSETS			
Property, plant and equipment	7	353,394	182,963
Intangible assets	8	3,294	2,487
Other assets	9	10,456	10,609
		<u>367,144</u>	<u>196,059</u>
		<u>491,328</u>	<u>300,245</u>
NON-CURRENT LIABILITIES			
Deferred capital grants	10	463,392	281,947
Deferred contributions	11	7,331	2,450
Managed projects	12	3,496	1,575
Amount due to National Energy Skills Center (NESC)	16	3,600	3,600
		<u>477,819</u>	<u>289,572</u>
RESERVES			
General		7,800	7,482
Industry Liaison and Professional Education Unit (ILPE)		5,709	3,191
		<u>13,509</u>	<u>10,673</u>
		<u>491,328</u>	<u>300,245</u>

The accompanying notes form an integral part of these financial statements.

These financial statements were approved by the Board of Governors on November 19, 2008 and signed on its behalf by:



Member of the Board of Governors



Member of the Board of Governors

STATEMENTS OF INCOME AND EXPENDITURE FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

	Note	2006 \$	2005 \$
Income			
Government contributions:			
Recurrent grants		96,868	70,225
Capital grants released	10	13,251	7,444
Tuition and other related fees		19,231	18,062
Industry Liaison and Professional Education Unit (ILPE)		14,355	13,647
Non-government contributions	11	74	465
Interest income		4,231	568
Other income	13	553	170
		<u>148,563</u>	<u>110,581</u>
Expenses			
Staff costs	14	51,579	21,450
General and administrative expenses		23,257	25,263
Academic programs and related costs		32,474	23,165
Industry Liaison and Professional Education Unit (ILPE)		11,837	10,372
Facilities costs		13,329	12,214
Depreciation		<u>13,251</u>	<u>7,444</u>
		<u>145,727</u>	<u>99,908</u>
Excess of income over expenditure for the year/period	15	<u>2,836</u>	<u>10,673</u>

The accompanying notes form an integral part of these financial statements.

STATEMENT OF CHANGES IN RESERVES FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

	General \$	Reserves ILPE \$	Total \$
Period ended September 30, 2005			
Balances as at September 14, 2004	—	—	—
Excess of income over expenditure for the period	7,482	3,191	10,673
Balances as at September 30, 2005	<u>7,482</u>	<u>3,191</u>	<u>10,673</u>
Year ended September 30, 2006			
Balances as at September 30, 2005	7,482	3,191	10,673
Excess of income over expenditure for the year	318	2,518	2,836
Balances as at September 30, 2006	<u>7,800</u>	<u>5,709</u>	<u>13,509</u>

The accompanying notes form an integral part of these financial statements.

STATEMENT IN CASH FLOWS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

	2006 \$	2005 \$
Cash flows from operating activities		
Excess of income over expenditure for the year/period	2,836	10,673
Adjustments to reconcile excess of income over expenditure to net cash from operating activities:		
Depreciation	13,251	7,444
Capital grants released to the statement of income and expenditure	(13,251)	(7,444)
Deferred contribution released to the statement of income and expenditure	(74)	(465)
Amortisation of intangibles	853	540
Impairment of intangibles	—	731
Disposal of assets (non-cash)	95	—
Amortisation of leasehold premiums	121	32
Operating income before working capital changes	3,831	11,511
Decrease/(increase) in inventory	35	(35)
Increase in accounts receivable and prepayments	(78,092)	(55,654)
Increase in accounts payable and accruals and deferred fees	32,202	55,333
Decrease/(increase) in other assets	32	(10,641)
Net cash (outflow)/inflow from operating activities	(41,992)	514
Cash flows from investing activities		
Purchase of property, plant and equipment	(183,777)	(107,976)
Purchase of intangible assets	(1,660)	(3,758)
Net cash outflow from investing activities	(185,437)	(111,734)
Cash flows from financing activities		
Proceeds from capital grants	194,696	206,960
Proceeds from managed projects and deferred contributions - net	6,876	4,490
Net cash inflow from financing activities	201,572	211,450
Net (decrease)/increase in cash and cash equivalents	(25,857)	100,230
Cash and cash equivalents at beginning of year	100,230	—
Cash and cash equivalents at end of year (note 4)	74,373	100,230

The accompanying notes form an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

I. Corporate information

The University of Trinidad and Tobago (“the University”) was incorporated on September 14, 2004 as a non-profit company under the Companies Act 1995, Chapter 81:01 of the laws of Republic of Trinidad and Tobago. This was an interim measure until such time as appropriate legislation is enacted to govern the conduct of its affairs.

The University operates out of multi-campus facilities throughout Trinidad and Tobago. Its registered office is at Orange Grove Road, Tacarigua, Trinidad.

The Government of the Republic of Trinidad and Tobago (“GORTT”), through the Corporation Sole, is the Founder Member of the University and can appoint no more than one third of the members of the Board of Governors. GORTT now provides both recurrent and capital grant funding to the University.

The management of the University is vested in a Board of Governors, ten (10) of whom can be appointed by the three (3) First Members of the University and five (5) of whom can be appointed by the Corporation Sole. As at November 19, 2008 the Board of Governors consists of ten (10) Governors (September 30, 2006: 13) and does not include any persons who have been appointed by the Corporation Sole.

The University is an institution of higher education and research. It provides training and educational services primarily at the undergraduate, graduate and post-doctoral levels, and performs research and other services through contributions from corporate donors and sponsoring organisations and under contracts with various clients. The University has fostered partnerships with the private sector and entered into strategic alliances with internationally reputable universities. The private sector brings industry-relevant course content with the result of a graduate being industry-ready.

The University has a “business school” referred to as Industry Liaison & Professional Education (“ILPE”) which provides short courses and professional programs mainly to meet the technical training needs of the oil and gas industry. The trainees are from wide sectors of the community – State Agencies and Government Ministries, Corporate Entities and Private Individuals.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

2. Significant accounting policies

The principal accounting policies adopted in the preparation of these financial statements are set out below:

a. Basis of preparation

These financial statements have been prepared on a historical cost basis and in accordance with the International Financial Reporting Standards ("IFRS").

These financial statements are presented in Trinidad and Tobago dollars, which is the University's functional and presentation currency. The comparative statements cover the period September 14, 2004 (the date of incorporation) to September 30, 2005.

b. Significant accounting estimates, assumptions and judgements

The preparation of the financial statements in conformity with IFRS necessitates the use of estimates, assumptions and judgments. These estimates and assumptions affect the reported amounts of assets and liabilities and contingent liabilities at the balance sheet date as well as affecting the reported income and expenses for the year. Although the estimates are based on management's best knowledge and judgment of current facts as at the balance sheet date, the actual outcome may differ from these estimates, possibly significantly.

The key assumptions concerning the future and other key sources of estimation uncertainty at the balance sheet date, which have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year is discussed below:

Property, plant and equipment

Management exercises judgment in determining whether costs incurred can accrue significant future economic benefits to the University to enable the value to be treated as capital expenditure. Further judgment is applied in the annual review of the useful lives of all categories of property, plant and equipment and the resulting depreciation determined thereon.

2. Significant accounting policies (continued)

c. Impairment of assets

Various assets of the University are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash generating units).

d. Foreign currency translation

Transactions in foreign currencies are initially recorded in the functional currency at the rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into Trinidad and Tobago dollars at the rate of exchange ruling at the balance sheet date. Non-monetary assets and liabilities are translated using exchange rates that existed when the values were determined. Exchange differences on foreign currency transactions are recognised in the statement of income and expenditure.

e. Property, plant and equipment

Property, plant and equipment are stated in the balance sheet at cost less accumulated depreciation and accumulated impairment losses.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, only when it is probable that future economic benefits will accrue to the University and the cost can be measured reliably. All other repairs and maintenance are charged to the statement of income and expenditure when incurred. Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

2. Significant accounting policies (continued)

e. Property, plant and equipment (continued)

With the exception of land and capital work in progress, depreciation is charged on all other assets on the straight line basis at rates estimated to write off these assets over their expected useful lives as follows:

Buildings	—	2.5%
Motor vehicles	—	25%
Reference library materials	—	20%
Machinery and equipment	—	10% - 33 1/3%
Office equipment, furniture and fixtures	—	10% - 33 1/3%

The costs of buildings under construction are classified under 'capital works in progress.' Depreciation is charged when the construction is substantially completed and the assets are ready for use.

Property, plant and equipment transferred by GORTT and/or donated by other sources to the University are recognised at estimated fair values, with a corresponding credit to the deferred capital grants or deferred contribution account.

Gains or losses arising from the derecognition of property, plant and equipment are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognised in the statement of income and expenditure when the asset is derecognised.

f. Intangible assets

Intangible assets acquired are measured on initial recognition at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses.

Intangible assets are amortised over their useful economic lives and assessed for impairment whenever there is an indication that the intangible assets may be impaired. The amortisation period and the amortisation method for an intangible asset are reviewed at least annually.

2. Significant accounting policies (continued)

f. Intangible assets (continued)

Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortisation period, as appropriate, and is treated as changes in accounting estimates. The amortisation expense on intangible assets is recognised in the expense category consistent with the function of intangible assets.

Gains or losses arising from the derecognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognised in the statement of income and expenditure when the asset is derecognised.

g. Leases

Operating leases

Leases of assets under which all the risks and benefits of ownership are effectively retained by the lessor are classified as operating leases. Payments made under operating leases are charged to the statement of income and expenditure on a straight-line basis over the period of the lease.

When an operating lease is terminated before the lease period has expired, any payment required to be made to the lessor by way of penalty is recognised as an expense in the period in which termination takes place.

h. Inventory

Inventory representing the cost of laptop computers and related software for resale to students, is valued at the lower of cost and net realisable value. Cost is determined using the first in first out (FIFO) method. Net realisable value is the estimated selling price in the ordinary course of business, less estimated costs necessary to make the sale.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

2. Significant accounting policies (continued)

i. Accounts receivables

Accounts receivables are recognised and carried at original full amounts less provision for doubtful debts. Specific provisions for doubtful debts are made where the recovery of the full amount is considered doubtful. Bad debts are generally written off against the provision when identified.

j. Financial instruments

Financial instruments carried in the balance sheet include cash and bank balances, receivables and payables, and are stated at cost.

k. Cash and cash equivalents

Cash and cash equivalents include cash at bank and in hand and funds held in money market mutual funds with original maturity of three months or less and are carried at cost which approximates their fair value.

l. Capital grants and government contributions

Capital grants

Capital grants are received from both GORTT and private sources for the specific purpose of construction and/or purchase of property, plant and equipment. These grants are recognised where there is reasonable assurance that the grant funds will be received and utilised in accordance with all stipulated conditions. An amount equivalent to the depreciation charge on the relevant property, plant and equipment is released to income over the expected useful life of the asset. Non-monetary capital grants are recorded at fair value and are released to income over the expected useful life of the asset.

2. Significant accounting policies (continued)

l. Capital grants and government contributions (continued)

Government contributions

Contributions received from GORTT to meet operating deficits are recognised in the respective year to which the Government's annual budget allocation applies.

m. Deferred contributions

The University receives funding from donors for research projects, bursaries, scholarships, capital and other purposes. The University follows the deferral method of accounting for grants and donations, when they are restricted in use by the donor.

Donations that are governed by donor-imposed stipulations, for which stipulations must be complied with to the satisfaction of the donor for the project expenditure to be approved, are generally for projects undertaken by the various departments and are referred to as "Deferred contributions" (note 11). Such donations are accounted for as follows:

i. Donations received in advance of expenditure:

Donations received in advance of expenditure are deferred and shown in the balance sheet as "Deferred contributions". When funds are disbursed, the amount is charged as an expense in the statement of income and expenditure or, if applicable, included on the balance sheet as property, plant and equipment or intangible assets. An equivalent amount is then released as income from "Deferred contributions" to the statement of income and expenditure.

ii. Expenditure in advance of receipt of donations pledged:

Expenditures, made in accordance with donor's stipulations in advance of receipt of donations pledged, are included in the balance sheet as "Accounts Receivables". The amount is also reflected in the statement of income and expenditure as relevant expenses or if applicable, in the balance sheet as property, plant and equipment with an equivalent amount reflected as "Non Government Contributions" in the statement of income and expenditure or if applicable, "Deferred capital grants".

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

2. Significant accounting policies (continued)

n. Accounts payable

Accounts payable are carried at cost, which is the fair value of the consideration to be paid in the future for goods and services received, whether or not invoiced to the University.

o. Provisions

Provisions are recognised when the University has a present obligation (legal or constructive) as a result of a past event where it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

p. Revenue recognition

Revenue is recognised to the extent that it is probable that economic benefits will flow to the University and the revenue can be reliably measured. Revenue is measured at the fair value of the consideration received, excluding discounts and rebates. The following specific recognition criteria apply to the relevant category of revenue:

i) *Grants relating to operating activities*

Grants relating to operating activities are recognised as income on a systematic and rational basis over the periods in which the related expenses are incurred.

ii) *Tuition and other related fees*

Tuition fees are recognised on the accrual basis over the period of instruction.

iii) *Interest income*

Interest income is accounted for on the accrual basis.

iv) *Other income*

Income is received from a range of activities including catering, room hire, rental and other services rendered. Income is recognised on the accruals basis commensurate with the exchange of relevant services.

v) *Industry Liaison and Professional Education Unit (ILPE)*

Income is recognised on the accruals basis commensurate with the exchange of relevant services and is reported separately to segregate its revenue and expenses for future activities relating to this Unit.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

3. Accounts receivable and prepayments	2006	2005
	\$	\$
Amounts due from GORTT (see below)	122,173	52,966
Corporate receivables	7,461	2,513
Prepayments	3,918	1,647
Other receivables	2,339	296
	<u>135,891</u>	<u>57,422</u>
Less: provision for doubtful debts	(2,145)	(1,768)
	<u>133,746</u>	<u>55,654</u>
Amounts due from GORTT comprise:		
Capital contribution (cash in transit)	94,197	43,778
Government Assistance for Tuition Expenses (GATE)	27,976	9,188
	<u>122,173</u>	<u>52,966</u>
4. Cash and cash equivalents	2006	2005
	\$	\$
Cash at bank and in hand	21,110	74,849
Money market mutual funds	53,263	25,381
	<u>74,373</u>	<u>100,230</u>
Cash and cash equivalents as per statement of cash flow		
	<u>74,373</u>	<u>100,230</u>
The applicable interest rate at the balance sheet date on the money market mutual funds (TT\$) ranges from 5.5% – 5.75% per annum.		
5. Accounts payable and accruals	2006	2005
	\$	\$
Other payables and accruals	37,386	39,902
Trade creditors	21,250	1,843
Retentions payable	8,206	5,431
Amount due to National Energy Skills Center (NESC) -note 16	2,013	2,021
	<u>68,855</u>	<u>49,197</u>

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

6. Deferred fees

This represents the portion of tuition fees that is deferred, as the services will be provided in the subsequent period. When the services are performed, the amount is released to the statement of income and expenditure and included within tuition and other related fees income.

7. Property, plant and equipment

	Buildings	Machinery & Equipment	Motor Vehicles	Office Equipment & fixtures	Capital work in progress	Total
Cost	\$	\$	\$	\$	\$	\$
As at October 1, 2005	57,055	27,941	3,911	12,418	89,082	190,407
Additions	2,958	4,642	915	13,073	162,189	183,777
Disposals	—	—	(101)	—	—	(101)
Transfers from work in progress	154,829	5,197	—	8,985	(169,011)	—
As at September 30, 2006	<u>214,842</u>	<u>37,780</u>	<u>4,725</u>	<u>34,476</u>	<u>82,260</u>	<u>374,083</u>
Accumulated Depreciation						
As at October 1, 2005	1,638	3,595	585	1,626	—	7,444
Charge for the year	2,992	4,640	1,103	4,516	—	13,251
Disposals	—	—	(6)	—	—	(6)
As at September 30, 2006	<u>4,630</u>	<u>8,235</u>	<u>1,682</u>	<u>6,142</u>	<u>—</u>	<u>20,689</u>
Net Book Value as at September 30, 2006	<u>210,212</u>	<u>29,545</u>	<u>3,043</u>	<u>28,334</u>	<u>82,260</u>	<u>353,394</u>
Net Book Value as at September 30, 2005	<u>55,417</u>	<u>24,346</u>	<u>3,326</u>	<u>10,792</u>	<u>89,082</u>	<u>182,963</u>

In May 2004, GORTT approved the establishment of The University of Trinidad and Tobago and decided that the Trinidad and Tobago Institute of Technology (TTIT), a division of the National Energy Skills Center (NESC), would be integrated with the University. In September 2004, the University recorded the building and equipment of TTIT (the Point Lisas Campus) at fair values of \$56.0 million and \$26.4 million respectively and with corresponding credits to "Deferred capital grants" (note 10). These assets have been recognised in the balance sheet on the basis that it is probable that future economic benefits will flow to the University and the assets have a cost or value that can be measured reliably.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

7. Property, plant and equipment (continued)

In July 2005, GORTT approved the transfer of the land on which the building at the Point Lisas Campus is situated. The transfer has to be effected via a state grant and is subject to the provisions of the Real Property Ordinance which requires the submission of approved survey plans by the University. The University has not secured legal title to the land at the balance sheet date and accordingly, has not recognised the land on its balance sheet.

Capital Work in Progress at year-end, includes design and construction costs of the Graduation Pavilion at the O'Meara Campus in Arima, the Maritime Campus Phase II in Chaguaramas and the Main Campus at Tamana In Tech Park, Wallerfield in the amounts of \$3.99 million, \$12.1 million and \$42.1 million respectively. During the year the amounts transferred to Buildings with respect to the O'Meara Campus and the Maritime Campus are \$112.3 million and \$41.5 million respectively.

8. Intangible assets

	Computer Software \$	Licences \$	Total \$
Period ended September 30, 2005			
Opening balance	—	—	—
Additions	2,459	1,299	3,758
Amortisation during the period	(101)	(439)	(540)
Impairment charge	—	(731)	(731)
Balance as at September 30, 2005	<u>2,358</u>	<u>129</u>	<u>2,487</u>
Cost	2,459	1,299	3,758
Accumulated amortisation and impairment	(101)	(1,170)	(1,271)
Net book amount	<u>2,358</u>	<u>129</u>	<u>2,487</u>
Year ended September 30, 2006			
Opening balance	2,358	129	2,487
Additions	1,660	—	1,660
Amortisation during the year	(791)	(62)	(853)
Balance as at September 30, 2006	<u>3,227</u>	<u>67</u>	<u>3,294</u>
Cost	4,119	1,299	5,418
Accumulated amortisation and impairment	(892)	(1,232)	(2,124)
Net book amount	<u>3,227</u>	<u>67</u>	<u>3,294</u>

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

8. Intangible assets (continued)

Computer software

This includes the costs of acquired computer software and is being amortised on a straight-line basis over a finite period of three (3) years.

Licences

This represents the costs incurred by the University to acquire the licences granted by a foreign university in respect of the delivery of the University's educational program. The licence fee is being amortised on a straight-line basis over a finite period of three (3) years, which is the applicable period of the licence.

9. Other assets

	2006 \$	2005 \$
Prepaid lease premiums (see below)	10,325	10,446
Rental deposits	131	163
	<u>10,456</u>	<u>10,609</u>
Prepaid lease premiums:		
Opening balance	10,567	–
Additions	–	10,599
Amortisation during the period	(121)	(32)
	<u>10,446</u>	<u>10,567</u>
Current portion included in other receivables	(121)	(121)
	<u>10,325</u>	<u>10,446</u>

Prepaid lease premiums comprise amounts paid to acquire the leases of parcels of lands on which the O'Meara Campus, Arima and the Maritime Campus, Chaguaramas are situated. Lease premiums are amortised over the periods of the respective leases which are ninety-nine (99) years for O'Meara and thirty (30) years for Chaguaramas.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

10. Deferred capital grants

	2006 \$	2005 \$
Monetary grants	391,214	204,749
Non-monetary grants	72,178	77,198
	<u>463,392</u>	<u>281,947</u>
Balance as at September 30	281,947	—
Received during the period	194,696	289,391
Released to the statement of income and expenditure	(13,251)	(7,444)
Balance as at September 30	<u>463,392</u>	<u>281,947</u>

For each reporting period, the University transfers to income an amount equivalent to the depreciation charge of related property, plant and equipment. The gross amounts of grants received during the year comprise:

	2006 \$	2005 \$
Monetary grants	194,696	206,960
Non-monetary grants		
- Building	—	56,000
- Equipment	—	26,431
	<u>194,696</u>	<u>289,391</u>

11. Deferred contributions

Balance as at September 30	2,450	—
Received during the year	4,955	2,915
Released to the statement of income and expenditure	(74)	(465)
Balance as at September 30	<u>7,331</u>	<u>2,450</u>

These funds represent receipts from donors with specified conditions and restrictions relating to its use. When these funds are spent in accordance with the donor's stipulation, the amount is released to the statement of income and expenditure.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

12. Managed projects

Managed projects comprise the following:

	2006 \$	2005 \$
Centre for Energy Enterprise Development	1,575	1,575
Trinidad and Tobago Health Sciences Initiative	1,921	—
	<u>3,496</u>	<u>1,575</u>

These are projects undertaken by the University for clients in accordance with specific conditions.

	2006 \$	2005 \$
13. Other income		
Facility rental	238	—
Project management fees (net)	294	—
Sundry income	10	85
Foreign exchange gain	8	55
Sale of laptops (net)	3	30
	<u>553</u>	<u>170</u>

14. Staff costs

Compensation of key management personnel	6,634	1,140
Other staff costs	44,945	20,310
	<u>51,579</u>	<u>21,450</u>

Staff costs relating to the ILPE Unit amounting to \$1.834 million (2005: \$1.489 million) are included within ILPE expenses in the statement of income and expenditure.

15. Excess of income over expenditure

Excess of income over expenditure is derived after deducting/(including) the following:

	2006 \$	2005 \$
Depreciation expense	13,251	7,444
Capital contributions released to statement of income and expenditure	(13,251)	(7,444)
Amortisation of intangibles	853	540
Amortisation of lease premiums	121	32
Impairment of intangibles	—	731

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

16. Related party disclosures

During the period, the University had the following transactions with related parties as follows:

	2006	2005
	\$	\$
Pre-incorporation costs incurred by the University and paid by National Energy Skills Center (NESC) on its behalf	–	958
Salaries and other operating expenditures incurred by the University and paid by National Energy Skills Center (NESC) on its behalf	–	9,362
Medical transcription training costs incurred by Evolving Technologies and Enterprise Development Company Ltd (e-Teck) and invoiced to the University	5,952	12,589
Lease premium paid to Evolving Technologies and Enterprise Development Company Limited (e-Teck) for the land at the O'Meara Campus	–	599
Rent paid to Evolving Technologies and Enterprise Development Company Limited (e-Teck) for the land at the O'Meara Campus	553	414

Management is of the view that these transactions were entered into on terms no less favourable than those that could have been obtained from other parties providing these services.

Related party balances at year-end include:

	2006	2005
	\$	\$
Amounts due to NESC (current) – note 5	2,013	2,021
Amounts due to NESC (non-current)	3,600	3,600

The non-current portion of the liability due to NESC amounting to \$3.6 million is subject to an agreement dated May 29, 2008. This balance is repayable in equal monthly installments of three hundred thousand dollars (\$300,000), the first such installment is due on June 2, 2008 and subsequent installments due monthly thereafter, with the last such installment due in May, 2009.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED SEPTEMBER 30, 2006

(Expressed in thousands of Trinidad and Tobago dollars)

16. Related party disclosures (continued)

	2006	2005
	\$	\$
Amount due to e-Teck re:		
Medical transcription training costs	13,412	7,460
Amount due to e-Teck re:		
Lease premiums relating to the O'Meara Campus	—	1,013

17. Contributed services

Certain industry partners have seconded professional staff to assist the University in the start up of its operations at no cost to the University. The value of these services is therefore not included in these financial statements.

18. Commitments

Future minimum rentals payable under non-cancellable operating leases entered with various companies are as follows:

	2006	2005
	\$	\$
Due within one year	2,255	2,034
Due after one year but not more than five years	3,623	4,096
Due after five years	13,838	14,404
	<u>19,716</u>	<u>20,534</u>

The University has approved capital commitments amounting to \$112.3 million (2005: \$74.9 million) mainly relating to obligations in connection with the construction of the O'Meara Campus and Maritime Campus. This capital expenditure committed at September 30, 2006 would be fully funded by government grants.

The University entered into various agreements with foreign universities for delivery of its educational program. As at September 30, 2006, the contractual commitments with these foreign universities amounted to \$18.3 million (2005: \$35.4 million).

19. Taxation

No tax liability has been recorded in the financial statements on the basis that the Cabinet of GORTT had agreed that the University be accorded certain exemptions from taxation. The University had submitted an application to the Board of Inland Revenue ("BIR") for the University to be granted Charitable Organisation Status under the Corporation Tax Act, with retroactive effect from September 14, 2004. In April 2008, the University was granted approval for Interim Charitable Organisation status with retroactive effect therefrom, pending the final recommendation from the Board of Inland Revenue, and accordingly no tax liability has been recorded in these financial statements. If this was recorded, there would be a tax expense of \$148,563 (one hundred and forty eight thousand five hundred and sixty three dollars) in the statement of income and expenditure for the year ended September 30, 2006. There would also be a tax liability of \$252,196 (two hundred and fifty two thousand one hundred and ninety six dollars) in the balance sheet as at September 30, 2006, with a corresponding reduction in the accumulated reserves at that date of \$252,196 (two hundred and fifty two thousand one hundred and ninety six dollars).

20. Financial instruments and risk management practices

a) Fair values

The methods and assumption used to estimate the fair value of each class of financial instruments for which it is practical to estimate a value are as follows:

Short-term financial assets and liabilities

The carrying value of these assets and liabilities is a reasonable estimate of their fair value because of the short maturity of these instruments. Short-term financial assets comprise cash and accounts receivable. Short-term financial liabilities comprise accounts payable and accruals.

b) Foreign currency risk

The University incurs foreign currency exposure on transactions that are denominated in a currency other than the Trinidad and Tobago dollar. The University ensures that the net exposure is kept within reasonable limits by monitoring and, where necessary, adjusting its exposure.

c) Liquidity risk

Liquidity risk, also referred to as funding risk, is the risk that the University will encounter difficulty in raising funds to meet commitments. Liquidity risk may result from an inability to sell a financial asset quickly or at close to its fair value. Prudent liquidity risk management implies maintaining sufficient cash and ensuring the availability of funding through an adequate amount of committed facilities. The management of the University manages this risk by keeping a substantial portion of its financial assets in liquid form.

21. Subsequent events

In accordance with the decisions of GORTT, the process of integration is on-going with respect to the following institutions:

- John S. Donaldson Technical Institute (JSDTI)
- San Fernando Technical Institute (SFTI)
- Valsayn Teachers Training College
- Corinth Teachers Training College
- Tool and Die functions of Metal Industries Company Limited (MIC)
- Caribbean Industrial Research Institute (CARIRI)
- Institute of Marine Affairs (IMA)
- Eastern Caribbean Institute of Agriculture & Forestry (ECIAF)
- Research and Support Services Centre at Waterloo
- National Institute of Higher Education Research, Science and Technology (NIHERST)
- Sugar Cane Feed Centre at Longdenville
- Centeno Experimental Station.

In March 2007, the Board of Governors approved the award of contract amounting to \$1.12 billion (VAT inclusive) for the University's signature complex located at Tamana In Tech Park, Wallerfield.

In March 2007, URECO Ltd, a fully owned subsidiary of the University, was incorporated primarily to manage the University's estate portfolio.

In March 2007, (UTT) Caribbean Industrial and Technological Services Limited, a fully owned subsidiary of the University, was incorporated primarily to provide scientific and technological services to clients.

The Board of Governors is pleased to submit its Report for the year ended 30 September 2006:

	\$(000)	\$(000)
Excess of Income over Expenditure for the year after accounting for:		<u>2,836</u>
Directors' Fees and expenses	360	
Depreciation	13,251	
Releases to Income	<u>(13,251)</u>	



*Kenneth Julien,
T.C. (Professor Emeritus)
– Chairman*

Mr. Robert Riley

Mr. Errol Pilgrim

*Mr. Ravindra
Nath Maharaj*

Dr. René Monteil

Legal Status

Pursuant to a decision of Cabinet in August, 2004, UTT was incorporated as a private non-profit company under the Companies Act, Chapter 81:01 on 2004 September 14. It was felt that incorporation as a non-profit company would allow the institution to be more responsive to the changing requirements of a new University.

As a non-profit company, UTT has no share capital. However, UTT's By-Laws provide for four classes of Members (equivalent of shareholders) of the University as follows:

THE REPORT OF THE BOARD OF GOVERNORS

- i. The Founder Member being the Corporation Sole on behalf of the Government (GORTT);
- ii. The First Members being the persons first named in the Articles of Incorporation;
- iii. Benefactor Members being persons (corporations or individuals) who make a financial contribution to the University based on a pre-determined level prescribed by the Board of Governors; and
- iv. Honorary Members being corporations and individuals who are invited by the Governors in recognition of their work for the University.

- Mrs. Gisele Marfleet
- Dr. René Monteil
- Professor Dyer Narinesingh
- Mr. Ravindra Nath Maharaj
- Mr. Errol Pilgrim
- Mrs. Allyson Ramkerrysingh
- Mr. Gervase Warner
- Mr. Lincoln Warner



Mr. Frank Look Kin

*Professor
Dyer Narinesingh*

Mr. Scott Hilton-Clarke

Mr. Lincoln Warner

Mr. Ian Welch

The current Members of the University are the Founder Member and the First Members (who are Kenneth Julien, T.C. (Professor Emeritus), Mr. Ian Welch and Mr. Robert Riley).

The members of the Board of Governors as at 2006 September 30 were as follows:

- Kenneth Julien, T.C. (Professor Emeritus) – Chairman
- Mr. Robert Riley
- Mr. Ian Welch
- Mr. Scott Hilton-Clarke
- Mr. Frank Look Kin

Sub-Committees of the Board for the financial year 2006

The Board of Governors at its inaugural meeting held on 2005 March 11 approved the establishment of the following Sub-Committees:

1. Executive
2. Budget and Finance
3. Planning and Development
4. Human Resources and Appointments
5. Audit

THE REPORT OF THE BOARD OF GOVERNORS

A) The Executive Committee

The approved membership of the Executive Committee effective 2005 April 29 was as follows:

- Kenneth Julien, T.C. (Professor Emeritus) – Chairman
- Mr. Robert Riley
- Mr. Ian Welch
- Professor Dyer Narinesingh
- Mr. Ravindra Nath Maharaj
- Dr. René Monteil
- Mr. Gervase Warner

B) The Board Tenders Committee

The Executive Committee at its meeting held on 2005 July 21 noted that until UTT's Procurement Policy and Procedures was adopted and ratified by the Board, the Executive Committee would act as the Board Tenders Committee for UTT.

UTT's Manual of Procurement Policies and Procedures was approved by the Board on 2005 December 12 and revised on 2006 July 10.

C) The Audit Sub-Committee

The following membership of the Audit Sub-Committee was approved by the Executive Committee at its meeting held on 2005 April 29:

- Mr. Jerome Sooklal – Chairman
- Mr. Errol Pilgrim
- Mrs. Allyson Ramkerrysingh

Mr. Jerome Sooklal resigned from the Board on 2005 May 20.

D) The Finance and Budget Sub-Committee

The membership of the Finance and Budget Sub-Committee was as follows:

- Mr. Gervase Warner – Chairman
- Mr. Errol Pilgrim
- Mr. Frank Look Kin
- Dr. René Monteil
- Mrs. Allyson Ramkerrysingh
- Professor K.D. Srivastava (then Provost and Senior Vice President)

- Ms. Feona Lue Ping Wa (then Acting Financial Controller)
- Mr. Dave Bhajan (Vice President Capital Projects and Institutional Planning)

E) The Planning and Development Sub-Committee

The membership of the Planning and Development Sub-Committee was as follows:

- Kenneth Julien, T.C. (Professor Emeritus) – Chairman
- Ms. Gisele Marfleet
- Dr. René Monteil
- Mr. Ravindra Nath Maharaj
- Professor K.D. Srivastava (then Provost)
- Mr. Dave Bhajan (then VP Capital Projects and Institutional Planning)
- Dr. Peter Smith (then Associate Provost)
- Ms. Jennifer Sampson (then PS, Ministry of Science, Technology and Tertiary Education)

F) The Human Resource and Appointments Sub-Committee

The membership of the Human Resource and Appointment Sub-Committee was as follows:

- Mr. Scott Hilton-Clarke – Chairman
- Dr. René Monteil
- Mr. Ravindra Nath Maharaj
- Mrs. Allyson Ramkerrysingh
- Mrs. Gisele Marfleet
- Professor Dyer Narinesingh
- Mr. Oliver Flax (then Vice President, Human Resources and Administration)
- Professor K.D. Srivastava (then Provost)

Material Interests

At no time during or at the end of the financial year did any Director or Officer have any material interests in any contract or arrangement in relation to the business of the University.

Clause 10 (10) of the University's By-Laws requires a Director or Officer to disclose to the Board and the Members any material contract entered into with the University.

THE REPORT OF THE BOARD OF GOVERNORS

Service Contracts

Other than that entered into with the President of the University with effect from June 2005, there were no service contracts between the University and any of its Directors.

The services of the Executive Director were donated by BG TT for the period under review.

Significant Events subsequent to 2006 September 30

At a meeting of the Board of Governors held on 2008 August 29, the Board resolved that the membership of the Board Tenders Committee be revised as follows:

- Kenneth Julien, T.C. (Professor Emeritus) - Chairman
- Dr. René Monteil
- Mr. Scott Hilton-Clarke
- Mr. Lincoln Warner
- Professor Dyer Narinesingh
- Mr. Frank Look Kin

Although the Government appointed the first members of the Board of Governors, the re-election of members of the Board was carried out in accordance with UTT's approved By-Laws which provide that the Government, through the Corporation Sole (being the Minister of Finance or his proxy), has the power to exclusively appoint one-third of the maximum number of members of the Board of Governors (equivalent to five (5) Governors), while the First Members have the power to appoint the remaining ten (10) Governors.

Ms. Gisele Marfleet and Ms. Allyson Ramkerrysingh did not seek re-appointment as Members of the Board of Governors at the re-election of members of the Board at the Annual Meeting of Members held on 2007 March 29 and they both ceased being members of the Board of Governors with effect from this date.

At the Annual Meeting of Members held on 2007 March 29 the following ten (10) members of the Board of Directors were re-appointed to the Board of Governors for a period of two (2) years from the date of that meeting:

- Mr. Robert Riley
- Mr. Ian Welch
- Dr. René Monteil
- Mr. Frank Look Kin
- Professor Dyer Narinesingh
- Mr. Scott Hilton-Clarke
- Mr. Ravindra Nath Maharaj
- Mr. Errol Pilgrim

- Mr. Lincoln Warner
- Mr. Gervase Warner

Mr. Gervase Warner tendered his resignation from the Board of Governors with effect from 2007 July 31.

Following the resignation of Mr. Gervase Warner from the Board of Governors, the Board ratified the appointment of Mr. Frank Look Kin as pro tem Chairman of the Finance and Budget Sub-Committee and Mr. Errol Pilgrim as pro tem Chairman of the Audit Sub-Committee (both with effect from 2007 September).

The current composition of the Board of Governors as at 2008 September 30 is as follows:

- Kenneth Julien, T.C. (Professor Emeritus) – Chairman (and President)
- Mr. Robert Riley
- Mr. Ian Welch
- Dr. René Monteil
- Mr. Frank Look Kin
- Professor Dyer Narinesingh
- Mr. Scott Hilton-Clarke
- Mr. Ravindra Nath Maharaj
- Mr. Errol Pilgrim
- Mr. Lincoln Warner

The Corporate Secretary for the period to 2006 September 30 was Mr. Errol Ashby. He has been succeeded by Ms. Debbie Sirjusingh who was appointed Corporate Secretary with effect from 2007 May 16. Mr. Dayle Connelly, Manager – Legal, is Assistant Corporate Secretary with effect from 2008 August 29.

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THE BOARD OF GOVERNORS

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Ms. Debbie Sirjusingh, Corporate Secretary



Mr. Dayle Connelly, Assistant Corporate Secretary

THE REPORT OF THE BOARD OF GOVERNORS

Appointment of Auditors

At a Special Meeting of the Members of the University held on 2006 December 18, on the recommendation of the Board of Governors, the Members resolved that the firm of Ernst and Young, Chartered Accountants be appointed as Auditors of The University until the close of the next Annual Meeting of the Members of the University at a remuneration to be fixed by the Board of Governors of The University.

Messrs. Ernst and Young were advised of their appointment as Auditors of the University on 2006 December 19 to conduct the audits for the two financial years 2004/5 and 2005/6. The 2004/5 audit commenced in 2007 April.

Resolutions to reappoint Ernst and Young as Auditors until the next succeeding Annual Meeting of Members and to authorise the Board to determine their remuneration were proposed and accepted at the 2008 (3rd) Annual Meeting of Members of the University held on 2008 July 3.

The Board at its meeting held on August 29 2008 agreed to the engagement of Ernst & Young, Chartered Accountants, to conduct the combined audits of the Accounts & Financial Statements of UTT for the years ended 2007 September 30 and 2008 September 30. The Auditors were informed of their engagement by letter dated 2008 September 26.

Indemnities and Insurance

The University maintains liability insurance for its Directors and Officers. Cover is not provided in the event that a Director or Officer is proved to have acted fraudulently or dishonestly.



Kenneth Julien, T.C. (Professor Emeritus)
CHAIRMAN OF THE BOARD OF GOVERNORS
2008 November 19

13.0 | COMMUNITY DEVELOPMENT

Physical Impact

The University of Trinidad and Tobago (UTT) has expanded rapidly over the past four years, since its establishment in September 2004. Starting with one campus at Point Lisas and approximately 1,600 students, UTT now operates from eight campuses and two administrative offices. Another four campuses are in the planning and construction stages, including the new main campus being built at Tamana Intech Park, Wallerfield. Over the 2009 academic year the student population is expected to exceed 6,400 persons.



Mr. Dave Bhajan, Vice President Capital Projects and Institutional Planning

At full capacity, when all campuses are in operation by 2012, UTT's student population will be in excess of 12,000 persons, with a significant postgraduate cohort. The initial emphasis on graduate programmes and research and development activity is already beginning to show results in terms of the level and importance of this activity within the University.

The geographic distribution of UTT campuses throughout Trinidad and Tobago reflects the intent to build close linkages with the local communities, and to provide new opportunities, and increased access for the entire population of the country to University programmes. An underlying feature of the design of new campuses and refurbishment of existing campuses is to build solid relationships with the resident communities in

the vicinity of the campuses to facilitate the following:

- Community and individual access to UTT programmes;
- Employment within the University for members of the community;
- Easy access for young persons as well as mature students to University courses;
- A wide range of non-traditional programmes offering new opportunities to the population of Trinidad and Tobago, that were previously unavailable;
- Community involvement in research and development activities.

This is manifested in symbiotic relationships between UTT campuses and the surrounding communities, where UTT's facilities are utilised for community activities, and regular consultation between UTT and the local population is actively encouraged. The design of new campuses also takes into account the prior use of the specific locations in order to minimise inconvenience to the surrounding population, and to enhance the quality of the environment in that particular area. For example, access routes previously used by local residents through campus properties, are maintained and made secure as part of the University outreach philosophy of enhancing the environment of local residents.

UTT actively promotes the concept of excellence in the design and construction of its facilities. University buildings are expected to have a useful life of several decades and the designs take this factor into account. The design of new campuses facilitates the vision and guiding principles of UTT with respect to the following:

- Flexibility of space to allow for programmes and activities to be modified as technology changes and new needs arise. Flexible space facilitates retrofitting for many different applications;
- Space without boundaries that allows cross-fertilisation of ideas, and encourages interaction between students, staff and members of the public;
- Space that encourages teamwork, by providing an environment that facilitates meetings and discussions,

COMMUNITY DEVELOPMENT

as well as access to resources such as wireless internet services, library, visual aids and telecommunications;

- Safety and security for students, staff, visitors, and all persons entering and using the facilities at UTT campuses;
- Respect for the environment, and enhancement of the positive impact of the many factors influencing the environment in and around each UTT Campus.

	TT\$M
1. Point Lisas Campus	3.6
2. O'Meara Campus	155.3
3. Tamana Intech Park	178.7
4. Chaguaramas Campus	119.6
5. Tobago Campus	0.1
6. John S Donaldson Technical Institute	10.8
7. San Fernando Technical Institute	1.6
8. Valsayn Teachers College	15.7
9. Corinth Teachers College	12.2
10. ECIAF	4.0
TOTAL	501.6



Top achievers of UTT's Pre-University Programme (PUP) 2007: From left to right, Lori Sahadeo (San Fernando), Sonya Gibbs (Port of Spain) and Kervon John (Point Fortin). Missing are: Floyd Bartlett (O'Meara), Dennely Grant (Tobago) and Devon Thomas (Sport Programme). At the time of this Award Ceremony, Devon was in the USA, having been offered a scholarship to attend the University of Connecticut based on his completion of the PUP.

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In all its activities, and especially in relation to the design and construction of its physical facilities, UTT has adopted a long term strategic approach that provides for the effective management and delivery of appropriate and adequate infrastructure to satisfy its immediate and future needs. This is enhanced through the establishment of close working partnerships with the local communities where these campuses are located.

It is anticipated that this approach will lead to academic and research facilities, including sporting facilities, that will serve as models for the future development of Trinidad and Tobago.

Capital infrastructural expenditures of TT \$0.5 billion incurred to September 2008 on the significant teaching outlets are as follows:

Outstanding commitments are TT\$100 million; and the Tobago Campus is to be completed by 2011-2012 within an estimated cost range of TT \$250-600 million.

It should be noted that, for comparative purposes, the balance sheet values under the historic cost convention of educational institutions of 35 to 40 years ago could be required to be uplifted by a factor of 20 to 25 times for a proper assessment to be made of the equivalent current cost in 2008 of such educational infrastructure costs.

Social Impact

Provided below are just three sketches of many which demonstrate the impact that the presence of the academic programmes of the University is having on various communities:

(A) Status of UTT's Service Learning (SL) Initiative: National Institute of Higher Education, Research, Science and Technology (NIHERST)



Ms. Maureen Manchouck, President of NIHERST

Service-learning (SL) is a pedagogy that enriches student learning and development through engagement in meaningful service experiences in communities. These service experiences meet a real community need, enhance academic learning and foster in students civic responsibility.

The initiative to integrate SL into UTT's curriculum commenced in 2007 arising out of UTT's Chairman and President's vision to inculcate in students the desire to "give back" to society by providing opportunities during their course of study to assist various communities in addressing real needs. The work of the SL Secretariat during the 2007 period thus centred on laying the foundation for the success and sustainability of the initiative through such activities as

sensitising the various stakeholders - academic staff, students and the community - to the SL concept. The highlight of 2007 was the hosting of five SL consultations held throughout Trinidad and Tobago for the purpose of lifting the awareness of the various community organisations and determining the real needs of the community. The evaluation of the data collected and the release, in the last quarter of 2007, of the associated report, which included a comprehensive listing of community needs, identification of potential service-learning projects and the academic areas to which they were linked, formed the basis for the courses of action taken in 2008.

In particular, during the January to September 2008 period, the Service-Learning Secretariat which operates under the aegis of NIHERST, continued the work of laying the foundation for the successful integration of Service-Learning in the University as well as commencing the execution of a SL pilot through the following measures:

1. Development of Academic staff understanding of Service Learning

In order to increase the academic staff understanding of Service-Learning, a multi-faceted approach was taken which included:

- holding meetings for the purpose of providing technical assistance to the academic staff in areas such as curriculum and syllabus design and the writing of course learning outcomes;
- providing relevant articles on Service-Learning as well as presenting and circulating required papers/briefs on areas such as Service Learning models and the essential characteristics of Service Learning to assist academic staff in the integration of Service Learning into the curriculum;
- acquiring a number of Service-Learning books as reference material for academic staff. Books and publications on curriculum development and instruction were also purchased;
- preparing three draft SL manuals/handbooks for use by academic staff, students and community groups. These manuals include fundamental information on Service-Learning, general guidelines for SL course development as well as the roles and responsibilities of the various stakeholders;
- planning and developing a training workshop module for academic staff in the writing of learning outcomes for identified service-learning courses.

The need for all the stakeholders to have a shared understanding of Service-Learning was one of the principal reasons behind the SL Secretariat's involvement of academic staff from a wide range of disciplines in addition to Engineering. The inclusion of a wide range of disciplines in SL is also reflected in the composition of the Advisory Committee which guides the Secretariat and consists of representatives from the corporate and academic arms of UTT in conjunction with NIHERST personnel.

2. Preparation of papers on academic policy issues

In addition several papers were prepared and submitted to the Academic Council for consideration addressing academic policy issues such as the:

- minimum number of Service-Learning credits required for graduation;
- criteria for designating as an SL course, incorporation of SL within the University's validation processes; and
- development of a three-credit Service-Learning introductory course which can be taken by students in all disciplines in meeting the SL credit requirements for graduation.

3. Commencement of SL pilot at JSOTI campus

After several months of planning and the rendering of ongoing technical assistance by the SL Secretariat, the introduction of Service-Learning in Engineering culminated with the first structured SL pilot project in the University. This pilot initiative which commenced in September 2008 uses a discipline-based SL model in which SL is being integrated into two courses within the civil engineering diploma programmes at the John S. Donaldson Campus. The two courses selected for the pilot are Site Surveying and Leveling (SVYG110D); and Estimating and Cost Planning (ESCO210D). There is a linkage between this pilot and the COMDESI project described below.

4. Continuation of Community-Centred Design and Innovation (COMDESI)

The Community-Centred Design and Innovation (COMDESI) is a project based on the service-learning in engineering concept known as Engineering Projects in Community Service (EPICS) programme that originated at

Purdue University in the United States.

During the March 25 to April 12, 2008 period, COMDESI – Module 1 was held in collaboration with the Heroes Foundation (HF) – a non-governmental, not-for-profit organisation with a focus on the development of the nation's youth. In Module 1, 24 secondary students, selected from the HF membership, worked in teams of four or five to address the community need at hand. The real need as stated by the School for Blind Children has been to design and develop a new safe playground. In order to meet the real need of the selected community partner School for Blind Children, Santa Cruz, Trinidad these students acquired a working knowledge of the innovation process with particular focus on idea generation, design conception and prototype development.

It is expected that under Module 2, tertiary students will be involved in the development of identified playground equipment thus meeting the stated community need. This will commence with the service project to be conducted under the Site Surveying and Leveling course. Through the involvement of students of UTT John S. Donaldson Campus, the deliverable at the end of this sub-project (or aspect of the main project with the community partner) would be students' preparation of contour maps of the playground at the School for Blind Children. The work of these tertiary students will be in preparation for the leveling of the playground and for the appropriate placement of playground equipment that will be developed through the ongoing involvement of UTT students.

An organisational meeting amongst UTT Academic staff, SL Secretariat and the School for Blind Children was held in September 2008 during which practical operational matters such as supervision of students in the provision of service, assessment of Service Learning and the roles of the various stakeholders were addressed.

5. Computer Literacy training for community organisations

During the consultations the need for computer literacy training was identified by a number of community organisations in the regions of Arima, Port-of Spain, San Fernando and Mayaro. At follow up meetings with the Provost and key Academic staff members this area was selected as a priority community education need that could be met by UTT.

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The related work of the SL Secretariat thus included establishing contact with community organisations requiring computer literacy training and holding meetings in order to acquire further details on the target audience, the extent of training needed and the facilities available within the region of the community organisations to conduct such training. Based on the preparatory activities conducted on this initiative, it is expected that computer literacy training will be first held at UTT O'Meara Campus in October 2008, with training for other regions/community organisations being scheduled for the rest of 2008 or early in 2009 at UTT

(B) Community Outreach Programme of The Academy of Sport and Leisure Studies

The visionary and pioneering effort of the Academy of Sport and Leisure Studies (ASL) towards a community outreach programme in sports was on Friday May 09, 2008 formally launched as a joint venture initiative between the Australian Sport Outreach Programme and The University of Trinidad and Tobago (UTT-ASOP).

The Australian Sports Outreach Programme (ASOP) was born on November 26, 2005 when the Australian Prime



Service Learning Session,
Tobago 2008

campuses, community organisations' sites or in regions with available facilities.

This initiative is recognized as falling within the realm of community service rather than service-learning. It has been facilitated by the SL Secretariat for the purpose of establishing good and ongoing relations with community organisations that have also expressed a number of needs that can lend themselves to service-learning projects. Additionally, it is recognised that conceptually SL and Community Service are two of the faces of service with considerable overlap in practice. Activities that commence as non-credit Community Service can with the early intervention and guidance of Academic staff in accordance with established guidelines be converted into a credit bearing SL experience.

Minister announced a \$10 million Australian (dollar) outreach programme aimed predominantly at Commonwealth countries. The life of this programme runs from July 2006 to June 2011. The ASL of UTT was fortunate to be awarded an AU\$ 20,000 grant to conduct a community outreach programme locally for a cricket coaching clinic, the first module of which ran over a 10-day period from June 04 to 13 2008.

A media release from the Australian High Commission prior to the event stated: "The UTT/ASOP Caribbean Cricket Coaching Programme is intended to support a cadre of budding West Indian cricketers who have been selected on athletic scholarship at The University of Trinidad and Tobago. All of the young cricketers have represented islands at the regional level and some of them have already represented

the West Indies at youth level competitions... the Australian government, through ASOP, is providing funding this year for two cricket coaches from Australia to undertake workshops thereby assisting the coaches at the Sport and Leisure Academy in their endeavours."

The objectives of the community outreach programme of UTT-ASOP, the Sport Company of Trinidad and Tobago (SPORTT) and First Citizens Clarke Road United Cricket Club (FCCRU) partnership are to:

1. Use the programme as a motivational tool to encourage the youngsters of the 7 to 14 years age group in the catchment area of Penal/Debe/Barrackpore to be a part of the game of cricket.
2. Teach young aspiring cricketers the rudiments of fielding, bowling and batting and to develop them holistically.
3. Use the programme as a prelude to UTT's High Performance Unit Cricket Scholarship Programme.
4. Use the programme as a supplemental effort to the Trinidad and Tobago Cricket Board's and other similar organisation's aims and objectives of developing young cricketers of this nation.
5. Expose local coaches in 'rural' areas to proven foreign coaching skills and techniques for the improvement of local coaching standards.

Baldath Mahabir, President of First Citizens Clarke Road United Cricket Club remarked, "The UTT-ASOP initiative has established its roots in the fertile soil in the Penal/Debe area. Always high in natural cricketing ability, the opportunities to enhance these skills while pursuing educational excellence, were extremely scarce, if not non-existent. The UTT now offers the youth of the area a greater chance of success via a defined pathway, which integrates sport and education. We welcome the input of The University of Trinidad and Tobago in our community."

Head coach of the High Performance Cricket Programme of the ASL, Anthony Gray, was deeply involved in the 10-day fielding workshop as well as in the one day community outreach clinic in Penal. The workshop had 36 participants of which there were 26 cricketers, five of them from Guyana and St. Vincent and the Grenadines, six coaches, two trainers and two facilitators. The outreach clinic was fully supported by the parents and family members of the participating children as well as by other community members.

At the closing ceremony on Friday, June 13, 2008 at the UWI SPEC facilities, Professor K.S. Julien, T.C. (Professor Emeritus), President of UTT, addressed a packed hall which

included Brian Lara, the Australian High Commissioner, the two visiting Australian facilitators, other top UTT officials as well as the graduating student athletes and their coaches. Describing the initiative as a pioneering one he explained that we, as a nation, have never really embraced cricket or any other sport as part of a university programme. For this, he paid tribute to Brian Charles Lara for insisting that our athletes be given a sound academic education through the help of the State.

The feedback from each of the two facilitators, the Australian coaches Darren Holder and Mike Young was also very positive. Speaking at the end of the community outreach clinic in Penal, the American-Australian fielding specialist in both baseball and cricket, Mike Young, proclaimed effusively, "This is the best group of youngsters I have ever seen in 30 years! These youngsters are extremely talented," he said, "especially in 'throwing' which is very hard to do."

(C) The Academy for Arts, Letters, Culture and Public Affairs Contact with Artists, Artistic Groups and Cultural Groups

The Academy's efforts to promote and develop the Arts and Culture of Trinidad and Tobago in "all its forms and as a source of independently conducted studies" has made it one of the first ports of call for artists, cultural activists, and scholars in Trinidad and Tobago.

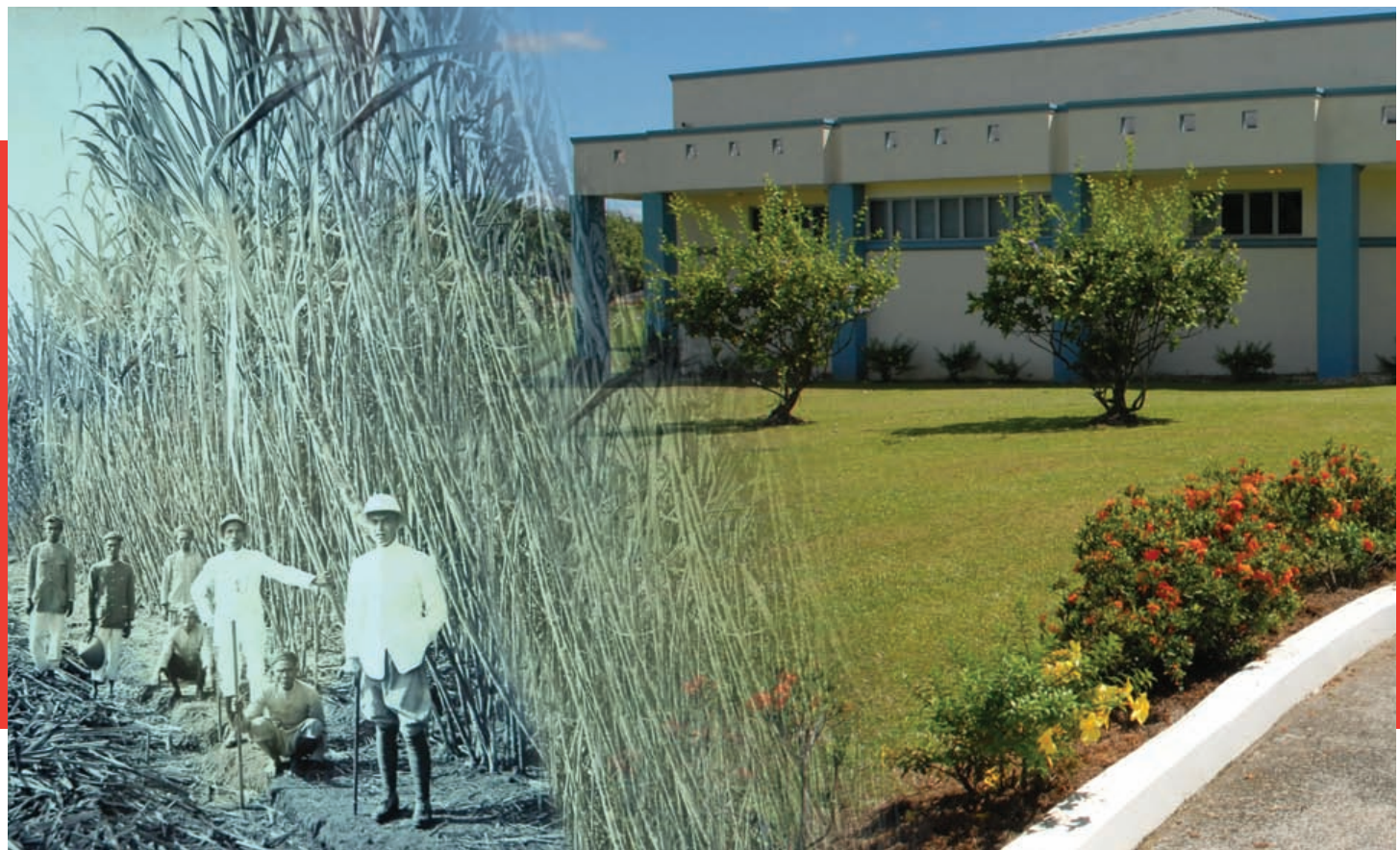
In the course of the year 2007/8, The Academy has set up the beginnings of outreach to Secondary Schools by facilitating a project of 'The Young Historians' organisation. Driven by the enthusiasm of the Young Historians, training in the production of community research was carried out among Secondary Schools at four venues, including Tobago.

One intervention into the community called the Golconda Project was remarkable. People who have been laid off from the Sugar Industry or who have had long association with the Sugar Industry were encouraged to provide oral accounts of their experiences as the material from which to produce stories, poems, essays and testimonies. But a lot more happened. The Golconda Project turned into a model for interaction between the University and the Community. This first move was highly productive and had significant impacts on community building, community archiving and on civic awareness. The Academy hopes to publish a history of Golconda and all the individual writings to ensure that the model that has suggested itself is not lost.

COMMUNITY DEVELOPMENT



Mr. Brian Lara (T.C.; Order of the Caribbean Community) thrills the young participants of UTT's Community Outreach Programme at the Clarke Road United Cricket Club, Wilson Road Recreation Ground, Penal. Looking on are visiting Australian coaches Darren Holder and Mike Young.



Sugar cane fields at Caroni in the early 20th century are now the site of UTT's Point Lisas Campus.

The Terms of Reference of the Advisory Councils are as follows:

- i) To advise UTT on aspects related to the development of its various programme offerings;
- ii) To formulate and submit proposals/recommendations for the enhancement and/or revision of its programme offerings;
- iii) To assist UTT in enhancing its links with Industry, the Community and the Private Sector;
- iv) To identify areas and topics for research and development; and
- v) To provide advice on such other matters referred to the Council by the President or the Board of Governors of UTT.

The Membership of the Council is comprised of Industry and practising professionals and non-UTT academics. Each Council is expected to focus on a specific field of study at UTT. The Ongoing and proposed areas of study are as follows:

- Energy, Process and Utilities Engineering
- Arts, Letters, Culture and Public Affairs
- Manufacturing (with a focus on Innovation and Entrepreneurship)
- Maritime
- The Performing Arts
- Fashion and Design
- Information and Communication Technology (ICT)
- Education
- Construction
- Sports and Leisure Studies
- Bioscience, Agriculture and Food Technologies

All proposals/recommendations of the Councils are referred to the Board of Governors for consideration. Each Advisory Council is chaired by a Member of the Board of Governors, thus providing direct access to the Board.

MANUFACTURING

Mr. Linford Carrabon
Prof. Clement Imbert
Dr. Alfredo Riviere
Mr. Oxley Paul

Mr. Wayne Punnette
Dr. Trevor Townsend
Mr. Kelvin Mahabir
Mr. Greig Laughlin
Mr. Robert Tang Yuk

Programme Professor: Professor Denise Thompson

*note Chairperson TBD

ICT

Mr. Scott Hilton-Clarke (Chairman)
Mr. Samuel Martin
Prof. Brian Copeland
Mr. George Gobin
Mr. Keith Thomas
Mr. Cleveland Thomas
Ms. Gillian Macintyre
Mr. Simon Aqui

Programme Professor: Professor Michael Smith

THE ACADEMY FOR THE PERFORMING ARTS

Mr. Scott Hilton-Clarke (Chairman)
Dr. Patricia Dardaine-Raguet
Ms. Sonja-Jeanne M. Dumas
Professor Jeff Henry
Dr. Geoffrey Holder
Mr. Christian Holder
Ms. Gisele Marfleet
Mr. Wendell Manwarren
Ms. Simone Phillips
Mr. Dave Williams
Mr. Christopher Laird
Mr. Bhadase Seetahal-Maraj
Ms. Annette Alfred
Mr. Ralph Maraj

*Programme Professor: Drama/Theatre Arts
– Professor Emeka Nwabueze*

ADVISORY COUNCILS

As At September 30 2008

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Professor K. S. Julien (Chairman)
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Mr. Courtney Lange
Mr. Leonard Chan Chow
Commodore Anthony Franklin
Mr. Anthony Paul
Commander Kirton Huggins
Mr. Kurt Duncan
Mr. Reginald Williams
Mr. Terrance Perez

Programme Professor: Professor Colin Stevenson

THE ACADEMY OF ARTS, LETTERS, CULTURE AND PUBLIC AFFAIRS

Mr. Ravindra Nath Maharaj (Chairman)
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Mr. Rawle Gibbons
Mr. R. Barry McComie
Mr. Ian Teddy Belgrave
Mr. Mark Loquan
Mr. John Cupid
Mr. Santanand Sharma

Programme Professor: Professor Kenneth Ramchand

THE CARIBBEAN ACADEMY OF FASHION & DESIGN AT UTT

Mr. Scott Hilton-Clarke (Chairman)
Ms. Melca Alexander
Mrs. Karen de Montbrun
Mr. Peter Elias
Ms. Meiling Esau
Ms. Heather Jones
Ms. Coline Mills
Ms. Claudia Pegus
Ms. La Shaun Prescott

*note Programme Professor TBD

ENERGY, PROCESS & UTILITIES ENGINEERING

Dr. René L. Monteil (Chairman)
Mr. Ian Welch
Mr. Trevor Boopsingh
Mr. Anthony Paul
Mr. Vincent Pereira
Mr. Andrew Jupiter
Dr. Kermitt Walrond
Dr. Mukul Sharma
Mr. Frank Look Kin
Mr. Derek Hudson
Mr. Anthony Greene
Mr. Rampersad Motilal
Mr. Errol Grimes
Mr. Garth Cahtoor
Dr. Chandrabhan Sharma
Mr. Prem Nandlal
Mr. Indarjit Singh
Mr. Todd Peterson

Programme Professor: Professor David McGaw

Professor David McGaw (Provost)

With 48 years experience, 40 of which have been spent in academia, Professor McGaw has a significant track record in chemical engineering. A graduate of University of Wales (Swansea) and UWI with a M.Sc. and Ph.D. in Chemical Engineering, he has previously held several senior appointments at UWI – including Head, Department of Chemical Engineering; Assistant Dean, Faculty of Engineering (Research and Post Graduate Affairs); and Dean, Faculty of Engineering. Professor McGaw's research interests include Chemical Engineering Education, Organisation of Research, Separation Processes and Particle Technology, and he has published



several articles on Gas/Particle Heat Transfer, Particulate Drying and Extraction Systems, Energy and Environmental Engineering, Industrial Development for the Caribbean and The Role of University in Engineering Education and Industrial Development. He also has several invited presentations to his credit, and has been a subject expert for technical teams for the United Nations Development Programme, the United Nations Environment Programme, the Organisation of American States, the Caribbean Development Bank, the Canadian International Development Agency and the International Advisory Panel of the Organisation for Scientific and Industrial Research at the Norwegian University of Science and Technology. Professor McGaw has also held several directorships at the Engineering Institute for the Caribbean, Institute of Business, Carib Glassworks Limited, and ABEL/Bestcrete, including being Chairman of the Caribbean Industrial Research Institute and ANSA McAL Chemicals Limited. He is a Fellow of the Institution of Chemical Engineers (UK) and a Member of both the Association of Professional Engineers and the American Institute of Chemical Engineers.

Professor Adel Sharaf (Vice Provost, Research and Postgraduate Studies and Professor of Energy Systems)

Professor Sharaf has 25 years experience in energy systems, and has extensive industrial and consulting experience with Electric Utilities in Canada and internationally. A Senior Member of the Institute of Electrical and Electronics Engineers and graduate of the University of Manitoba, he holds a Ph.D in Electrical Engineering. Professor Sharaf was previously a Professor at the University of New Brunswick and has a prolific publications record, having authored and co-authored over 500 scholarly technical journals, referred conference papers and engineering reports. Professor



Sharaf also holds a number of US and international patents (pending) in electric energy and environmental devices. His research interests span Power Systems and Electrochnology, Electrical Apparatus and Systems and Energy Delivery, HVDC Transmission, Renewable/Alternate Energy Systems, Harmonics and Power Quality, Industrial Electronics, A.I. (fuzzy logic, neural networks, genetic algorithms applications in electrical systems), Pollution Abatement Devices and Systems and Learning Approaches.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Prakash Persad (Associate Provost, Undergraduate Studies)

Professor Persad's experience in teaching and research spans some 28 years. During this time he has been an Industrial Engineering Programme Coordinator and Head of the Department of Mechanical Engineering at UWI St. Augustine. The holder of a Ph.D in Mechanical Engineering from UWI, Professor Persad is well published, having authored or coauthored more than 70 articles, papers and proceedings. He has also supervised numerous projects in academia and in industry, and his applications for two robotic patents are currently under consideration. Professor Persad is a



member of the Caribbean Academy of Sciences, the Association of Professional Engineers of Trinidad and Tobago, the Institute of Electrical and Electronic Engineers and Director of the International Society for Productivity Enhancement. Professor Persad's public service include being Senate Minority Leader in the Parliament of the Republic of Trinidad and Tobago and membership on several Government and Cabinet-Appointed Committees.

Professor Krishna Athre

Professor Athre's 35 years of academic experience has primarily been in the mechanical engineering field. He was previously a Professor at the Indian Institute of Technology and holds a Ph.D in Lubrication and Bearing Dynamics, having graduated from the University of Baroda and the Indian Institute of Technology (Delhi). Professor Athre has several sponsored research and consultancy assignments to his credit and has written extensively, with over 80 peer-reviewed journal articles and conference proceedings. His research interests include Industrial Tribology, Mechanism of Lubrication and Lubricants and Optimal Design of Mechanical Engineering Systems.



ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Pat Bishop, T.C.

Professor Bishop has a 35-year track record in Caribbean History and the Arts. A graduate of King's College – University of Durham and the University of the West Indies, she holds a M.A. in West Indian History and an Honorary Doctorate from the University of the West Indies. Professor Bishop has been a Lecturer at UWI and is Director of the Carnival Institute of Trinidad and Tobago. She has served on several Boards and Committees, including the Task Force for the establishment of a National School of Music, the Carnival Development Committee, and the Boards of the National Museum and Art Gallery, the National Library and Information



Systems, and Carifesta. Her works of art have been the subject of several exhibitions, and she has worked extensively with the Southernaires Choir and Lydian Singers, as well as Skiffle Bunch, WITCO Desperadoes and several other steel band orchestras. She has been awarded both the Humming Bird Medal (Gold) and the Trinity Cross in recognition of her national service.

Professor Ramesh Deosaran

Professor Deosaran is well known for his extensive experience in academia, particularly in Criminology and related issues. A graduate of the University of Toronto with a doctoral qualification, he was previously Director – Centre for Criminology and Criminal Justice, Deputy Dean (Graduate Studies and Research) – Faculty of Social Sciences, Head – Department of Behavioural Sciences and Director of the Ansa McAl Psychological Research Centre at UWI. Professor Deosaran is a recipient of a Senior Fulbright Award and has been Visiting Professor at several institutions – including Stanford University, Oxford Centre for Socio-Legal



Studies, University of Calcutta, University of Bombay and John Jay College of Criminal Justice at City University of New York. He is also a Fellow of the Society for the Psychological Study of Social Issues and serves in an editorial capacity for three international journals. Professor Deosaran is widely published, with over 400 scholarly papers and journal articles and has authored/edited 14 books and research monographs. He is consultant to several international organisations – including the IADB, The World Bank, several United Nations agencies, the Ford Foundation and the Canadian International Development Agency. Professor Deosaran is an advisor to several regional governments and CARICOM, and serves on numerous Cabinet-Appointed Committees in Trinidad and Tobago, being an Independent Senator in four Parliaments. He is an active member of 14 international professional organisations.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Mohamed El-Sayed

Professor El-Sayed has 40 years academic experience. The holder of a Master of Science in Electrical Engineering from Cairo University and a doctoral qualification from RWTH Aachen in the same discipline, he has held positions at Cairo University, RWTH Aachen, Qatar University and Kuwait University in the areas of power system analysis, power system reliability, power system protection, renewable energy and application of artificial intelligence in power systems. The recipient of several research scholarships, Professor El-Sayed is a member of the IEEE, the Energy Research Society (Germany) and the Egyptian Society of



Engineers. He is a reviewer for several university and international journals, and is well published himself, having authored or co-authored more than 100 scholarly articles.

Professor Michael Gray

Professor Gray has over 30 years experience in physical education in the United States and Germany, with expertise in the Physiology of Exercise, Youth Sports, Youth Fitness, Athletic Coaching, Adult Fitness, Biomechanics/Kinesiology and Athletic Conditioning. He is the holder of a M.S. and Ed.D. from the University of Southern Mississippi, and is also credentialed with a teaching certificate: K-12 Health/Physical Education and as an Exercise Test Technologist by the American College of Sports Medicine. Professor Gray was previously a member of the Graduate Faculty at Northern Kentucky University, and also served as a physical education



teacher and coach. He holds membership in several professional societies – including the International Alliance for Youth Sports, the National Society of Youth Sports Administrators and the American College of Sports Medicine. Professor Gray has written extensively in his field, including three books and numerous articles, and has presented at several professional conferences and seminars. He has conducted consultancies around the world, including in India, China and Mexico, and is the recipient of several awards including a 'National Award for Outstanding Service' from the National Youth Sports Coaches Association.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Anthony Joseph

Professor Joseph has 30 years varied experience in academics and consulting with his areas of expertise spanning occupational safety, health and environmental compliance, manufacturing processes and resource management. A graduate of UWI as well as the Indiana University of Pennsylvania and the University of Leeds, Professor Joseph holds Master of Science degrees in Safety Sciences as well as Environmental Pollution and Control, and a doctoral qualification in Civil Engineering. Professor Joseph was previously a Professor at the University of Connecticut and the Indiana University of Pennsylvania and is a member of the American Society of Safety



Engineers and the American Public Health Association. He has authored several articles, conference proceedings and technical reports on the environment, occupational safety and engineering systems.

Professor Theodore Lewis

Professor Lewis has over 30 years experience in academia. A graduate of the University at Wisconsin-Stout where he attained a Master's degree in Industrial Education as well as the Ohio State University where he attained a Ph.D. in Education, Professor Lewis has worked as a secondary school technology education teacher, a vocational education supervisor, an industrial trainer and university lecturer. He has been a visiting professor at the University of British Columbia, and Programme Officer at the National Science Foundation. Professor Lewis has also served on several Committees, including the ERIC clearinghouse on Adult,



Career, and Vocational Education, the National Association of Industrial and Technical Teacher Education and the Association of Career and Technical Education Research. He is also past editor of the Journal of Vocational Education Research, and has been on the editorial board of the Journal of Industrial Teacher Education. Professor Lewis has research and teaching interests in Technology Education, Vocational Education and Training, Evolution of Technology Education as a School Subject and Transformation of Vocational Education towards Liberal Purposes. He continues to publish in these areas, and has several manuscript awards to his credit.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Jeanette Morris

Professor Morris has 45 years experience as a teacher and teacher educator. A former lecturer at the University of the West Indies, she also served as coordinator for the M.Ed. programme and Head of the School of Education. A graduate of the University of Edinburgh, Georgetown University and UWI, Professor Morris holds several qualifications, including a Diploma in Education, a M.A. (Honours) Spanish with French, a M.Sc. (Portuguese with Linguistics), and a M.A. and Ph.D. in Education. Professor Morris has authored several articles, book chapters and other scholarly publications, as well as commissioned reports. She is a member



of the American Council on the Teaching of Foreign Languages, the American Educational Research Association, Women and Development Studies Group, and the Caribbean Studies Association; and has served on numerous Committees including the National Advisory Committee on Education, the Teaching Service Commission, the Cabinet-Appointed Concordat Review Committee, the National Curriculum Committee and Subject Panel for the development of the Caribbean Advanced Proficiency Examination Modern Languages syllabi.

Professor Emeka Nwabueze

Professor Nwabueze has over 30 years experience in the Arts, having lectured in several programmes in Africa and North America. He was previously Professor of Theatre Arts – University of Nigeria, William F. Quillian Visiting International Professor – Randolph-Macon Woman's College and Visiting Scholar/Director of Theatre – University of Swaziland, and Chairman, Division of Humanities and Fine Arts – Edward Waters College. A graduate of Eastern Michigan University and then Bowling Green State University with a doctorate in Theatre Studies, Professor Nwabueze also has extensive consulting experience and has published over



50 books/creative works, book chapters, journal articles, reviews and technical reports. He has presented over 30 papers, directed several professional plays and is the recipient of numerous awards for his community and professional activities.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Kenneth Ramchand

With 40 years academic experience, Professor Ramchand is well known for his expertise in West Indian Literature. A graduate of Edinburgh University, he became the University of the West Indies' first Professor of West Indian Literature, and was Head of the Department of Liberal Arts at St. Augustine for several years. Professor Ramchand holds a doctoral qualification in Literature, and is well published in North America, the UK and the Caribbean. He has also been a Senior Fulbright Scholar affiliated to Yale University and the University of Tulsa at Oklahoma, a Visiting Professor at Indiana University and Colgate University, as well as



a Fellow of the John Simon Guggenheim Foundation. Professor Ramchand's research interests are in Caribbean literatures and cultural and artistic impressions, and he has been awarded the Chaconia Medal (Gold) of the Republic of Trinidad and Tobago in recognition of his contributions to the field. He has also served as an independent member of the Senate of Trinidad and Tobago for several years.

Professor Ulrich Rauch

Professor Rauch has over 20 years academic and consulting experience in technology applications related to learning and communication. He holds a Ph.D. in Sociology from UBC, and a M.A. in Literature, Sociology and Philosophy from Albert Ludwigs Universitaet in Germany. Professor Rauch has worked in several capacities, the most recent being the Director for Instructional Support and Information Technology in the Faculty of Arts, at UBC. Apart from the administration and management of Information Technology and Systems, Audio Visual Services and Instructional and Educational Technologies, his portfolio included several



exciting international open source developments on learning technologies, such as Pachyderm, a web-based media authoring system, the Sakai project, a collaborative platform for teaching and learning, and most recently the development of virtual and immersive 3D learning environments, such as Ancient Spaces or the Arts Metaverse (based on Croquet). Professor Rauch has a strong interest in teaching, learning and research, which has propelled his involvement in instructional support, e-learning and all aspects of Information Technology. In 2005 he was the first Canadian to become a Fellow of the Frye Leadership Institute, and his research integrates areas such as Applications Development, IT Strategic Planning and Funding, Network Infrastructure and Services, Policy, Instructional Technology, Leadership/Management and Administrative Systems. He has several professional papers, conference presentations and publications to his credit in the aforementioned areas.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Compton Seaforth

Professor Seaforth has over 45 years experience as a scientist whose major interests lie in botanical chemistry – mainly in the bio-active constituents of medicinal plants. He is a graduate of the University (College) of the West Indies (UCWI), and holds a Ph.D. from the University of Wales. Professor Seaforth's career included some three decades at the UWI St. Augustine campus teaching and conducting research in organic chemistry (in the Faculty of Natural Sciences), and in pharmacognosy and medicinal chemistry at the School of Continuing Studies and Faculty of Medical Sciences. He also served as Dean of the Faculty of Natural Sciences, and has



been actively involved with technical consultancies, conferences and projects associated with poisonous and medicinal plants and with the conservation of biological diversity in the Caribbean region. Professor Seaforth has published numerous research articles, and has received several awards for his work.

Professor Peter Seivewright

Professor Seivewright has more than 25 years performing and academic experience. He is a graduate of Oxford University with a M.A. in Music, and completed post graduate studies at the Royal Northern College of Music, Manchester. He also holds a Diploma from and is a Fellow of the Royal College of Organists. His performing career as a classical concert pianist includes recital and concerto performances around the world in countries such as Great Britain, Ireland, Norway, Germany, Belgium, Denmark, Russia, Latvia, Estonia, Vietnam, Kazakhstan, Australia, India, China, Kuwait, and the United States, including performances with leading



Professional Orchestras. Professor Seivewright also has several classical recordings covering works by Bach, Glass and Bendix and in the jazz genre, was also Leader of the Peter Seivewright Trio who were in residence at BBC Radio Manchester from 1979 to 1984. He performed with the American jazz guitarist Jeff Ladenheim. As an academician, he was formerly Lecturer in Music at the Royal Scottish Academy of Music and Drama and Instructor in Music at the University of Leicester. He has also held appointments at the University of Huddersfield, the University of Keele and the Central Conservatory of Music (Beijing), and has been Artist-in-Residence, giving Concerts and Masterclasses, at all the major schools of music in Australia, Latvia, Vietnam and Kazakhstan.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Michael Smith

Professor Smith is a noted researcher in video content analysis with 20 years experience. He was formerly the Director of Research at France Telecom R&D San Francisco, and Director of the digital media partnership with the University of California – Berkeley. He holds a Ph.D. in Electrical and Computer Engineering and is a graduate of Carnegie Mellon University and Stanford University. Professor Smith is also the founder of AVA Media Systems and has worked as a Visiting Professor at the University of Texas – Austin, Morehouse College and University of Campinas in Brazil. Professor Smith has conducted research at AT&T Bell



Laboratories, Duke University Engineering Research Centre and Stanford Linear Accelerator Center. He is the author of numerous papers and a book on video content analysis, and as an innovator, Professor Smith holds two patents, and presently has two additional applications pending.

Professor Colin Stevenson

Professor Stevenson has over 50 years experience in the maritime industry as a Master Mariner, consultant and academic. His areas of expertise include Seafarer Employment Patterns, Maritime Business and Law, International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, Greek and Philippine maritime education and international legislative compliance. He holds a doctoral qualification in the field, and has lectured at the University of Plymouth and the Warsash Maritime Centre at Southampton Solent University. He has also been the Dean of the Athens Campus of the Southampton



Institute. Professor Stevenson was part of the team retained by the International Maritime Organisation to revise the IMO Model Course in line with STCW '95, and was also on the International Maritime Organisation's list of experts.

ACADEMIC PROFILES: SENIOR STAFF 2007/2008

Professor Manindra Thakur

Professor Thakur has over 40 years experience in engineering, spanning both operational leadership and academics. He held several senior positions within the research and product development divisions at the Steel Authority of India Limited over a 25-year period, and has consulted on energy, environment and cost control for several organisations in the commodities sector. A graduate of the Indian Institute of Technology (Bombay) and Banaras Hindu University (Varanasi), Professor Thakur holds a Ph.D. in Metallurgical Engineering, and is a Fellow of the Indian Institute of Metals and the Institution of Engineers (India).



Professor Denise Thompson

Professor Thompson's 25 years of experience spans consulting, teaching and research, and she previously served as an Associate Professor of Entrepreneurial Studies at Norfolk State University, VA and Associate Director of its Entrepreneurship Centre. Professor Thompson is a graduate of Stanford University and the University of South Florida, and holds a Ph.D. in Industrial and Management Systems Engineering. She was Marketing Editor for NSU's Journal of Developmental Entrepreneurship, a Founding Member of the Virginia Consortium for International Development, and served on the Board of Directors for the Hampton Roads Technology



Incubator and the Virginia Business Incubation Association. Her research interests are in technology entrepreneurship in underserved communities, creativity and innovation management, and engineering education and entrepreneurial self-efficacy. Professor Thompson has written several book chapters and papers on entrepreneurship and innovation, and has presented at seminars and conferences primarily in North America.

CORPORATE PROFILES: SENIOR EXECUTIVES

Professor Kenneth S. Julien, T.C. **Chairman and President**

Professor Julien has more than 40 years academic and industry experience, and is well regarded as a leader in engineering, energy and education. A graduate of the University of Nottingham and the University of British Columbia in Vancouver where he was awarded his doctoral qualification in Electrical Energy Systems, Professor Julien has a track record as a pioneer. He became the first local engineering lecturer with a Ph.D. at the newly established Faculty of Engineering, UWI St. Augustine, was subsequently one of the youngest Deans in the Commonwealth, and the first West



Indian Dean of the Faculty of Engineering. He was also the first Caribbean national to attain the rank of Fellow of the Institute of Electrical and Electronics Engineers, USA, and was appointed Professor and Head of the Department of Electrical Engineering in 1970, posts he held until retirement in 1996. Professor Julien holds patents for electrical systems and has published extensively in his field. His leadership in industrial development and the expansion of the national energy sector is also well known. He was chairman of the Energy Coordination Task Force which examined the potential use of natural gas in 1974, and this team subsequently managed the country's thrust into the global gas market and downstream industries in methanol, ammonia and power generation. Professor Julien has held several directorships, including the National Energy Corporation, the Industrial Development Corporation of Trinidad and Tobago, and Trinidad and Tobago Electricity Commission, among other state companies. He is currently chairman of Evolving Technologies and Enterprise Development Limited. For his outstanding service to Trinidad and Tobago, Professor Julien was awarded the Trinity Cross in 2003.

Dr. René Monteil **Executive Director**

Dr. Monteil has significant experience in academia and in industry, spanning a career of more than 30 years. He holds a Ph.D. from the University of London and a M.A. in Law from the City University, London. Professionally, he was elected a Fellow of the Royal Society of Chemists in 1981. Dr. Monteil was called to the Bar at Middle Temple, London in 1987 and to the Bar in Trinidad and Tobago in 2001. His university career began as a Research Fellow with Nobel Laureate, Professor Sir D. H. R. Barton at Imperial College London and later, in London, as a Researcher



with the Imperial Cancer Research Fund. He has also held faculty positions at both the Mona and St. Augustine campuses of UWI. In law, he specialised in intellectual property at the English Bar before practising as an advisory lawyer in UK Energy and Policy at the then Department of Energy. Before his legal career, he pioneered studies at the National Energy Corporation in Trinidad on the removal of natural gas liquids from indigenous gas streams. His work was instrumental in the formation of Phoenix Park Gas Processors Limited. He has also held senior positions in both upstream and downstream areas of the oil and gas industry and has been intimately involved in commercial negotiations for many natural gas-based projects in Trinidad and Tobago, including project coordination of Atlantic LNG Train 1 as Vice President at NGC and Train 4 for BG Trinidad and Tobago. Dr. Monteil holds several directorships, including at UTT and eTeck, and has also served as Chairman of various Cabinet-Appointed Committees.

CORPORATE PROFILES: SENIOR EXECUTIVES

Oliver Flax
Senior Vice President – Student Affairs,
Human Services and Communications

Mr. Flax has spent his working life contributing to the people operations of local and regional oil industries, the telecommunications industry and in training, with leadership positions in Human Resource Management, Industrial Relations, Corporate Communications and Corporate Management, and Organisation Development and Transformation. His work experience spans Petrotrin, and TSTT where he held the position of Executive Vice President, Organisation Effectiveness. Mr. Flax



has a Postgraduate Diploma with distinction in HR Management from the London-based Institute of Personnel Management and an Executive Master's in Business Administration, also with distinction, from UWI-IOB (now Arthur Lok Jack Graduate School of Business). He has provided consultancy services for various companies and has served on a number of Boards, including the National Training Agency, of which he was the first Chairman, a position he held for six years from the inception of the entity. He is a Member of the Teaching Service Commission and a former President of the South Trinidad Chamber of Industry and Commerce.

Dave Bhajan
Vice President – Capital Projects and
Institutional Planning

Mr. Bhajan has over 25 years experience in engineering disciplines. Over this time, he has had increasingly integrated responsibility in management, engineering, manufacturing, skills training and consulting. This culminated in leadership positions at the Metal Industries Company Limited, the National Energy Skills Centre and the Trinidad and Tobago Institute of Technology. Mr. Bhajan holds a M.Sc. in Production Engineering and Management and has held several directorships at public and private sector entities. He



has several years of project planning and development experience in African, Caribbean and Pacific countries, having worked at the EC/ACP Centre for Industrial Development in Brussels, Belgium.

CORPORATE PROFILES: SENIOR EXECUTIVES

Darren Brathwaite **Vice President – Architectural Planning and Design**

Mr. Brathwaite's career spans a decade in project management from the US to Asia, including award-winning buildings in Times Square, New York, and master-planning exercises in North America and the Middle East. He holds a Master's degree in Architecture and Urban Design and is a graduate of Cornell University and the Massachusetts Institute of Technology. Mr. Brathwaite has received several awards and has published a number of articles on urban design and issues affecting cities. He was also adjunct faculty at Cornell, MIT and the Boston Architectural Center, and

Judy Lake **Vice President – Information Technology Services**

Ms. Lake has a wide range of expertise in several areas of IT management, including audit, governance and technology application. She has over three decades of experience in the IT environment gained locally and in North America, and is the holder of degrees in Economics and French as well as Accounting. Ms. Lake is a Certified Information Systems Auditor, and a member of the Curriculum Development Advisory Committee to the Government of Trinidad and Tobago.



is an invited critic at Harvard University and The Rhode Island School for Design.

CORPORATE PROFILES: SENIOR EXECUTIVES

Lennard Prescod **Vice President – Finance and Procurement**

Mr. Prescod, a graduate (B.Sc.) of the University of the West Indies (UWI), has three decades of leadership in the financial and energy sectors, and has been a Director of several notable public and private sector institutions, including T&TEC and TRINTOC. He holds a M.Sc. in Accounting and Finance (University of London) and a MBA in Financial Services (University of Wales), and is a Fellow, inter alia, of the Chartered Association of Certified Accountants (FCCA), the Chartered Institute of Bankers (FCIB) and the Chartered Management Institute (FCMI). Mr. Prescod



has also authored several articles on finance and accounting, and has pioneered the adoption of several financial mechanisms in the local financial sector. His academic experience includes holding Faculty positions as both Examiner and Lecturer in the Master's Programmes at UWI.

ACADEMIC & CORPORATE STAFF

Academic Staff – Associate Professors

Dr. Mansour Assaf

B.Sc. Telecommunications (University of Ottawa)
M.Sc. Electrical Engineering (University of Ottawa)
Ph.D. Information Technology & Engineering
(University of Ottawa)

Dr. Adel Ben Mnaouer

B.Sc. Informatics & Computer Science
(Communication College of Tunis)
M.Eng. Electrical Engineering (Fukui University)
Ph.D. Computer Engineering (Yokohama National
University)

Dr. Russell Foote

Ph.D. Sociology (UWI)

Dr. Haydn Furlonge

B.Sc. Chemical & Process Engineering (UWI)
M.Phil. Chemical Engineering (UWI)
Ph.D. Chemical Engineering (University of London)

Anthony Gomes

B.F.A. Production Management (Boston University)
M.A. Lighting Design (University of Illinois)

Dr. Salim Ibrir

B.Sc. Avionics
(Institut National Supérieur de l'Aéronautique et de l'Espace)
M.Sc. Electrical Engineering
(Institut National des Sciences Appliquées)
Ph.D. Electrical Engineering (Paris-Sud University)

Dr. Tennyson Jagai

B.Sc. Mathematics & Physics (UWI)
M.Phil. Petroleum Engineering (UWI)
Ph.D. Petroleum Engineering (UWI)

Dr. Pratima Jauhari

B.Sc. Botany, Zoology & Geology (Kumaun University)
M.Sc. Geology (Kumaun University)
Ph.D. Marine Geology (Kumaun University)

Dr. Jerome Joseph

B.Sc. Biology (Andrews University)
M.Sc. Biology (Andrews University)
Ph.D. Biochemistry (UWI)

Dr. Marlon Knights

Ph.D. Physiology (West Virginia University)

Dr. Hollis Liverpool

B.A. History/Sociology (UWI)
Dip.Ed. (UWI)
M.A. History (UWI)
M.A. African History (University of Michigan)
Ph.D. History & Ethnomusicology (University of Michigan)

Dr. Betty McDonald

B.Sc. (Hons.) Math/Physics (UWI)
Pg.Dip. Education (UWI)
M.Ed. Measurement & Evaluation (UWI)
M.Phil. Education (UWI)
Ph.D. Psychometrics & Statistics (UWI)

Dr. Mysore Padmini

B.Sc. Physics, Chemistry & Mathematics
(Bangalore University)
M.Sc. Mathematics (Indian Institute of Technology)
Ph.D. Computer Science (Indian Institute of Technology)

Dr. Rodney Rambally

B.Sc. Mathematics (University of Saskatchewan)
M.Sc. Mathematics (University of British Columbia)
Ph.D. Computer Science & Mathematics (University of
Saskatchewan)

Dr. Judy Locke

B.Sc. Geography & Geology (UWI)
M.Sc. Geography (UWI)
Ph.D. Geography (UWI)

Dr. Ziad Sakr

B.Sc. Computer Engineering (University of Ottawa)
M.Sc. Electrical Engineering (University of Ottawa)
Ph.D. Electrical Engineering (University of Ottawa)

Dr. Emmanuel Senah

B.A. Philosophy/Arts (University of Ghana)
M.A. Education (University of London)
Ph.D. History (UWI)

ACADEMIC & CORPORATE STAFF

Dr. Prahalad Sooknanan

Dip. Communication Arts (UWI)
Pg. Dip. Education Technology (UWI)
M.A. Communication (University of Leicester)
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