Address by Campus Principal Professor Brian Copeland

At his Inauguration Ceremony
Saturday 8th July, 2017 at 6 p.m.
Daaga Auditorium,
The University of the West Indies, St Augustine Campus

1. SALUTATIONS

President of the Republic of Trinidad and Tobago, His Excellency Anthony Thomas Aquinas Carmona, SC

Chancellor of The University of the West Indies, Sir George Alleyne

Vice-Chancellor of The University of the West Indies, Professor Sir Hilary Beckles

Speaker of the House

Honourable Minister of Education, Mr Anthony Garcia

Honourable Minister in the Ministry of Education, Mr Lovell Francis

Honourable Minister of Labour and Micro Enterprises, Ms Jennifer Baptiste

Chairman of our Campus Council, Mr. Ewart Williams

Other Honourable Ministers of the Government in Trinidad & Tobago and those from the Region

Members of Parliament

Members of University Council

Pro Vice-Chancellors and Campus Principals

University Registrar, Mr. C. William Iton

Members of our Management Team at the St. Augustine Campus

Presidents of the Guild of Students, the Alumni Association and WIGUT

President of the Universities in Trinidad & Tobago and other representatives of tertiary level institutions

Members of the Diplomatic Corps

Members of the Business Industry

Esteemed colleagues of the St. Augustine, Mona, Cave Hill and Open Campuses

Honoured Guests, especially those from the Engineering fraternity.

Family and Friends – And let me especially welcome my wife, Mrs Prisca Massey-Copeland, and my daughter Kafi and son Keenon, who interrupted his business trip to Mexico to be here today. I also welcome my sisters Jasmine Copeland and Sharon Mc Intosh as well as Mrs Bernice Parris, our aunt.

Members of the media

Ladies and gentlemen

2. Introductory Remarks

Let me start by conveying a warm welcome to everyone and by saying how grateful I am for the kind words and expressions of confidence from my colleague Principals, peers, colleagues and stakeholders.

Thank you all for joining me today at this Induction Ceremony that formally marks my appointment as Campus Principal of the St. Augustine Campus of The University of the West Indies.

I would also like to publicly thank the Chancellor, Sir George Alleyne, Vice-Chancellor Sir Hilary Beckles, and the University Council, for their confidence in asking me to assume leadership of The UWI St. Augustine Campus.

Those who know me are aware I am not a person who likes to "stand on ceremony." However, I appreciate the fact that this Induction Ceremony is a

reminder of the rich history and tradition of The University of the West Indies, established by Royal Charter in 1948 as a College of the University of London and maturing to the fully-fledged institution it is today. Armchair historians, such as myself, will take more than a passing interest in the fact that the three Charters that map the birth and growth of The UWI are listed on the UK Privy Council website, along with all other UK Charters going back to the very first that established the University of Cambridge in 1231.

3. BACKGROUND

I am told these installation addresses are for the world to learn about the new Principal and to get a glimpse of the path the University will traverse during their stewardship. I would like to show how my life's journey has influenced the vision I have been sharing with UWI colleagues for the past year.

I was born on St. Vincent Street in the lovely southern city of San Fernando. My parents were Ellingsworth Copeland, better known as Mack Copeland, and Eudine Forde-Copeland. My father ended his long career as a fire officer as Chief of Fire Services. My mother was a nurse who spent her years at the San Fernando General Hospital, eventually retiring as Junior Matron.

My father was also a carnival bandleader of no small acclaim, having won Band of the Year in San Fernando for five consecutive years. I have yet to hear anyone dispute his claim that he pioneered the use of those enormous costumes that are now commonplace.

In those early years, our home was his band headquarters or mas' camp as Trinbagonians call it. As a child, I saw vignettes of the early civilizations of Central and South America, native North Americans, the Vikings, the Court of Queen Elizabeth I, the tribes of Africa, creatures and characters from Greek mythology and the Assyrian Empire of King Nebuchadnezzar come to life before my fascinated eyes. I saw their iconic shapes crafted out of wire and steel, wood, cloth, sequins, hammered copper and aluminum, paper and papier mâché. I saw art transformed from my father's Egyptian-like drawings to fully animated real-life 3D works.

One can begin to understand who I am by imagining the impact of this rich experience on a boy still of primary school age. Until about 7 years ago I did not fully appreciate the impact of those early years on my being.

I have always considered myself a Caribbean, born on the island of Trinidad. Perhaps that perspective was the result of the fact that my mother, and her mother who lived with us, were Barbadians who migrated to Trinidad and Tobago towards the end of the Second World War. Ours was a home that was constantly filled with visiting Bajan relatives and acquaintances.

Whatever the reason, I am fiercely Caribbean at heart. I still feel extreme anguish at the collapse of the Federation and remain hopelessly optimistic that one day, despite their increasing separation, Caribbean nations will unite under a common flag. All logic supports the creation of this imaginary state, that I have taken the liberty of calling Carribea, that would leverage its greater size to build a better life for its peoples. The UWI, with its four

campuses spread through the Caribbean, is critical in the achievement of this still elusive goal.

4. EDUCATION

My parents, like many at that time, believed in the power of education and ensured that their children had a good educational foundation. My schooling started at the relatively new Cocoyea Village Primary School from which I earned one of the exhibitioner awards to attend Presentation College in San Fernando. My high school career culminated with a National Scholarship in 1974. During these years I started to dabble in electronics, and started a short career as a DJ. These hobbies fueled the transition of my interest from Medicine to Physics and Electrical Engineering.

I worked for a year at the College, teaching Mathematics to the lower forms. My income, along with the scholarship support, allowed me to relieve my parents of further financial investments in my studies when I started my BSc in Electrical Engineering at The University of the West Indies in 1975. I graduated from that programme with first-class honours, and top of the graduating class in 1978. I then worked a year as a Teaching Assistant before taking up a UWI sponsorship to study for a Master of Applied Science at the University of Toronto. That sponsorship was the first of its kind, the idea of then Department Head, Professor St Clair King. Funding was sourced from a vacancy in the Department, which he felt, was far better utilized for foreign training of the top regional graduates than for hiring another foreign lecturer.

At UfT I truly began to appreciate the reputation and quality of the UWI. My UWI BSc programme prepared me extremely well for the challenge of studying at a University that justifiably considered itself one of the Ivy Leagues of North America. This was, in no small part, due to the guidance and mentorship of the likes of Professors Emeriti Ken Julien, St Clair King and Harold Ramkissoon.

I took great pride in the fact that Prof Davison, my UfT MASc project supervisor, a luminary in my chosen field of dynamic control systems, used some of our work in his consultancy for the control system for the Canadarm used on the Space Shuttle. This came as adequate compensation for my long abandoned dream of being an astronaut.

Upon my return from Toronto I worked as a Lecturer at UWI for six years, all the while trying to decide on whether to move on to a PhD or do another Master's degree, an approach that I felt was more applicable to the Caribbean because of the broader exposure it afforded. I eventually decided to head for the University of Southern California in South Central Los Angeles with my family, where I took up a LASPAU/Fulbright scholarship to read for a PhD. We left Los Angeles in 1990, returning home in the midst of the attempted coup and two years before the first riots of the South Central district.

Throughout this time, my life was being shaped by spurts of social and industrial unrest. This started with the 1970 Black Power Revolution, which prepared me for the racism I met abroad; the 1975 Bloody Tuesday industrial

unrest, and the long drawn-out "McEvoy" strike in 1976 at UWI that put a painful end to my education in electronics, my originally intended area of specialization.

I was not always an observer. As a conscious Trini, I took part in student marches in Toronto against the city's granting of an application by the Ku Klux Klan to set up a branch in that great city. We lost that petition. However, I seem to recall a humorous report in the Toronto Star that a black man was among the first to apply for KKK membership.

5. RESEARCH FOCUS

My teaching, research and outreach span several areas. My postgraduate studies and early research was in dynamic systems control, an area that uses mathematical behavioral models for vehicles, chemical reactions and even biological or economic systems to control the behavior of these systems.

Along the way, I transitioned to teaching and research in Digital Electronics Systems Design, an area in which I really had little formal training, but which I had to learn in a few months before my first post-doctoral teaching stint. This was prompted by a shortage of staff with the required background and qualifications. I did well enough to lead in establishing an extremely strong Digital Electronics programme thread in the Department.

I felt a growing discomfort, following my MASc Degree award, with the traditional life of the academic and its apparent misalignment with industrial practice. Comfort levels increased when I started to work on the design of

electric steelpans in the ’80s and early ’90s for the amplification of sound without microphones. This R&D effort was supported in the early days by a grant from the Carib Tokyo Steel Orchestra.

My discomfort was further placated when I rejoined the Department after my PhD studies, and became affiliated with a new group called the Real Time Systems Group (RTSG) lead by Prof St Clair King. This was UWI’s first endeavour at a university-industry interface unit through which expertise was accessed for projects that would have otherwise been done by foreign consultants. The projects that I lead or co-lead under the RTSG and of which I am particularly proud include the design and construction of the first electronic scoreboard at the Queen’s Park Oval, the design and construction of an Energy Monitoring system for the steel Company ISPAT, and the design of an offshore Remote Data Acquisition system for oil company TRINMAR.

My experiences in the RTSG team were in stark contrast to the relevance of the traditional life of a university academic when the university is, as is UWI, situated in a developing nation. As academics, we were expected to follow the pattern established in the developed world of research for publication. The publish-or-perish paradigm was, and still is, sacrosanct for UWI staff. I saw the almost exclusive focus on research for publication, driven by the UWI assessment and promotion system, as quite often of singular value and applicability extra-regionally, and a self-serving paradigm funded by the region’s taxpayers. I hasten to add that this perspective applied primarily to

Engineering and Science. Medical Science research, for example, focuses on human affliction and therefore has a built-in high level of relevance.

I questioned the intense intellectual efforts of my PhD and MSc studies and their direct impact on and contributions to the needs of the nation and of the region. No industry or consultancy firm, for example, was the least bit interested in my PhD and MASc studies in H2 and H-infinity optimal control. If nothing else, these postgraduate experiences facilitated my critical insight, analysis, and assessment.

New technology would be adopted by industry only if appropriately packaged for application by a reputable foreign supplier. My work, as advanced and as current as it was in the developed world, was irrelevant to and too far advanced for national development. While I picked up some important tools in my postgraduate studies, I realized that, for my own peace of mind, I had to counter this misalignment and switch focus.

Based on our shared experiences and discussions at RTSG, we were finally able to discover the appropriate context for research. We came to realise that in developed nations, whether through serendipity or deliberate intent, there is a wealth-generation system that ensures, in the specific case of product or process innovation, for example, that new concepts rooted in cutting-edge research results are developed and nurtured to the stage of commercialization. Part of the resulting profits are reinvested to complete the cycle of knowledge creation and commercialization. In the US, this accounts for 4% of GDP. In other words, the human capital that produces the

research is a return to the economy that contributes to national development.

In short, research-for-publication activity that we myopically adopted as a University paradigm, was a critical part of the wealth-creation engine of developed nations. I realised as well, that many in the developed nations do not see the big picture – at least not at that time. From the plethora of research papers, blogs and reports on the topic today, this is no longer the case.

In developing nations, a gap exists in this wealth generation model. Product and process creation and development are non-existent or minimal. Knowledge output at the Universities freely enters the public domain via academic journals, thus contributing to the global store of knowledge. This feeds the wealth generation engines of more developed countries, at the expense of local taxpayers. Furthermore, in the developing world, production systems and products for commerce and the associated knowledge (IP) are predominantly imported.

Despite our past economic successes in Caribbea, this gap defines us as developing nations. It makes us vulnerable to world economic upheavals; it robs us of much needed foreign exchange; it deprives us of job opportunities for our citizens and, as it represents poor economic sustainability, places us on a path whose end-point is not too far from economic and social collapse.

As one who espoused this need for research to be relevant to national development, I strengthened my activities in steelpan technology, leading ultimately to my more recent work that has been widely publicized over the past 10 years.

6. The Steelpan Initiatives Project and the PHI

My work on the steelpan came to a head with the establishment of the Steelpan Initiatives Project (SIP) in December 2005, which was funded through a grant from the Government of the Republic of Trinidad and Tobago. The project was commissioned to develop a tenor steelpan, fabricated with a "spider web" design, to accommodate a wider range of notes to improve timbre, make for a more compact orchestra and to patent the new instrument in the name of the Government of Trinidad and Tobago. The project was to be conducted under the strictest confidentiality.

The instrument was named the Genesis Pan or G-Pan. Its development was probably Trinbago's best kept secret, with the confidentiality component assured by expanding the funding provided to cover the various projects already well underway at the Steelpan Development Laboratory in the Faculty of Engineering. These projects included the MIDIPan which was later renamed the Percussive Harmonic Instrument (P.H.I.) and RoboPan which is a traditional steelpan rigged to be played by computer.

The G-Pan was officially launched on July 14th, 2007 at the UWI JFK Quadrangle with first patent filings the day before. We should raise an early 10th birthday toast to the G-Pan in the reception that follows! For those who

may not know, the G-Pan is used exclusively in the National Steel Symphony Orchestra which has performed on the international stage and to loud acclaim.

Inspired by the traditional tenor steelpan, the P.H.I. with its 36 notes, is a MIDI-compatible musical instrument which allows it to communicate in a network of other electronic instruments and computers. It was conceived by myself and co-inventors Keith Maynard, Earle Phillip, and Marcel Byron for pannists to capitalize on their unique kinesthetic of performance to produce tones of instruments other than the steelpan, such as pianos, xylophones and guitars. The musical 4ths and 5ths note layout, first applied to the traditional tenor by UWI Honorary Graduate Anthony Williams, facilitates a short learning curve for capable musicians who are not pannists. Overall, the P.H.I. is a powerful tool for percussionists and general musicians.

The inclusion of the P.H.I. in the Nicki Minaj YouTube video "Pound the Alarm" recorded in Trinidad and Tobago in 2012 was a significant achievement of the P.H.I. marketing campaign. That video has now accumulated over 200 million views! I was tempted to play the video for you but those who know Nicki Minaj videos know they're really not for the faint hearted!

Work on the P.H.I. was deliberately constrained so as to focus on G-Pan development. It was first revealed to the public without much fanfare following its first patent filing in October 2008. It is currently used by a

range of beta testers, including Darren Sheppard and Derron Ellies whom you heard perform earlier, as well as the Arima Band Rhapsody NG who will entertain you at the reception.

The Government's interest in the Steelpan Initiatives Project (SIP) was solely focused on the G-Pans.

However, I saw the SIP as part of a greater strategy to entrench Trinidad and Tobago as the unquestionable leader in the global steelpan industry through aggressive research, development and innovation of steelpan technology. I saw steelpan as the cornerstone of a new culture that would focus on innovation-led entrepreneurship in Trinidad and Tobago. Germane to this vision are the facts that the steelpan is 70 years old and that the first concept for the P.H.I. dates back to 1985; both are yet to realize their full market potential. I am hopeful that, given the renewed focus on innovation as an element of the current Government's National Development Strategy, some consideration will be given to the steelpan industry as an opportunity for economic diversification.

P.H.I. market entry was abruptly halted by court action against the inventors for ownership of its core patent. That action ended in mediation and the transfer of ownership to The UWI. This delay has brought a higher cost for market entry to Trinidad and Tobago's first technology product, together with the disbanding of the team of young graduates who had been working on the creation of St Augustine's first high-tech startup. Research at UWI

was indefinitely suspended, moving the epicenter of steelpan research to France.

The irony for me is that had this not occurred when it did, UWI and by extension the country would have been further down the diversification path than at present. Public good, the ultimate aim of all law, was compromised.

Thankfully, the Steelpan Initiatives Project brought some unanticipated but welcome benefits. Firstly, it acted as a catalyst in the sensitization of the nation to the importance of innovation and intellectual property protection. Further, two of the P.H.I. team members have formed their own start-ups.

I proudly speak here of David Chow who programmed and crafted the tones used on the P.H.I. and started Indigisounds, a company that sells high quality sampled tones of local instruments for use on all forms of MIDI instruments. Their most recent product provides samples of the instruments used by the Laventille Rhythm Sound Section. Indigisounds has received rave reviews in international musical instrument circles. Last, but not least, Jeevan Persad started the company Fasove which provides product design services to individuals seeking to advance their inventions. I wish them God-speed.

In addition, some of the R&D that resulted in the G-Pan has been expanded and applied with great success on drums manufactured by Pan Trinbago for steelpan manufacture.

7. My Vision for the UWI

Dear friends, I trust that the journey I just described would serve to explain how I arrived at a Vision that, with the help of my UWI colleagues, has evolved over the past year. Of late, I have pegged this vision on a best and worst case scenario for the future of the Caribbean.

The worst case scenario is **total societal collapse** caused by catastrophic natural disasters or by man-made disasters such as over-population, escalating crime or economic stratification – the divide between rich and poor. I sound a warning here that analysis of historical data suggests that societal collapse, as a result of economic stratification, is unavoidable.

At the other extreme lies the best case, near Utopian, scenario, in which we would have achieved the much-touted sustainable development goals. Here, governance and culture would make man-made disasters almost an impossibility, and in the aftermath of natural disasters, our citizens would be able to survive and build and maintain resilient communities that can grow to re-establish societies. Citizens would understand, respect and protect the ecology. The economy would be robust, buoyed by a mix of large companies and an extremely healthy network of innovation-driven, export-oriented SMEs.

I surmise that if the Governments, NGOs, industries and tertiary institutions of the region could collectively take aim at this scenario, we could get there in a generation.

The University of the West Indies has embarked on a 5-year strategic plan, a critical mission that will pilot its transformation to an institution that would lead Caribbean societies to this near-Utopian scenario. This Triple-A Strategy has the theme "Revitalizing Caribbean development," and sets the three A's – Access, Alignment, Agility – as its top-level strategic goals.

At the St. Augustine Campus, we have identified two major initiatives for immediate implementation.

The first seeks to reform our core education processes to become much more efficient and relevant and to increase access to a wider range of individuals, significantly the underserved. The target is a holistically trained graduate who would be a model citizen of near-Utopia.

The second initiative seeks to address what the UWI St. Augustine team calls the "Innovation Imperative" that will see the creation of an innovation ecosystem to expeditiously move potentially viable original ideas and concepts to commercial reality. We have broadened our focus to include ecological and social innovation for the near-Utopian scenario.

This strategic activity is, for me, of the highest priority for the simple reason that it represents a significant departure in UWI business and culture. Its output for the economic focus will be two-fold: creating spin-off companies that will enter national and regional economic spaces, and strengthening the international competitiveness of existing companies, all to increase the

foreign exchange earning potential of Carribea. A significant by-product will be the creation of a culture of innovation.

We know all too well that many graduates are facing hitherto unseen levels of underemployment, even in the high-demand professions such as medicine and law. We have accepted the challenge of nurturing the abilities of our students to spot and exploit commercial opportunities, and to derive novel, ingenious, and workable solutions to our economic, societal and ecological challenges. They should be fully prepared for the entire spectrum of future scenarios.

The legacy we will bequeath would be one of self-sustainability. Such a legacy would be an enduring one and would obliterate the debilitating cultural impact of slavery and indentureship. But, even more, it would determine the ultimate survival and growth of our region as a whole.

The journey to near Utopia and a revitalized Caribbean requires a significant culture shift. Indeed, the personal journey I recounted should make it clear that I know, first-hand, that it is particularly difficult when people who are solidly embedded in an existing paradigm, are required to make significant change.

That being said, my approach will be to challenge the prevailing paradigms by, first of all, working for an early win in the form of a first spin-off company at St. Augustine this year. We are almost there. We will also establish the innovation ecosystem that will include, inter alia, the legal,

financial, and business development support, all in collaboration with private and public sectors to form what many call the Triple Helix. The UWI will target students as a priority, while working with staff, to identify opportunities among the vast array of projects on this Campus. We will also contextualize the research paradigm that was the source of my discomfort, by re-engineering the HR environment to recognize and support all staff – the accomplished researchers, the proficient teachers and the adept developers – who will play vital roles in the ecosystem.

Very conservatively, we would like to spin-off one new company every two years. We would like to see much more as, by my estimate, we need thousands of export-oriented SMEs to populate the near-Utopian economic space.

8. ACKNOWLEDGEMENTS AND THANKS

I would like to conclude my address by publicly acknowledging and thanking all who have enabled my journey to this signature moment of my career.

To my Faculty of Engineering colleagues – Prof St Clair King and Dr Ronald DeFour, for the long, interesting discussions on national development. To Dr Mallalieu, a real gem in the UWI family when it comes to pedagogy and teaching, and other faculty members who stimulated my quest for better and more effective teaching. To the support staff who were ever willing to assist when the need arose.

To the UWI management and staff across all campuses, and, particularly, the fine UWI Management Team here at St. Augustine as well as students, alumni and stakeholders for the engagement and support over my first 12 months in office.

To the many UWI colleagues, staff and students who have collaborated with and supported me over the years.

To the Government and people of Trinidad and Tobago and particularly former Prime Minister, the late Mr Patrick Manning, for listening, encouraging, and providing the support that accelerated my journey.

To my colleagues in the steelpan fraternity – particularly those young graduates who delayed their careers to work on the dream of a P.H.I. start-up. To the co-inventors of the P.H.I., Keith Maynard, the late Earle Phillip and Marcel Byron. To the late Everard Byer and Dr Ronald DeFour for providing yeoman support in the numerous challenges of Intellectual Property Protection. To Jessel Murray and members of the NSSO for the encouragement and feedback and the exemplary display of professionalism. I must acknowledge 2016 UWI Honorary Graduate Dr Anthony Williams from whom I learned to appreciate the science and technology of the steelpan and who had me scurrying to find my physics texts following a lecture he gave years ago. To Pan Trinbago who helped keep steelpan R&D alive through their efforts in establishing a drum manufacturing plant at the SIP Macoya facility.

Saving the best for last, to my family – My wife, Prisca, my children Keenon and Kafi for their patience and understanding over the years of my working well into the early hours of the morning even after a long day of work. To my mother Eudine who provided my early inspiration through her support and encouragement, and through whom I learned the power of forgiveness and the reality of a God that is infinitely beyond the God defined by religion. To my Father, who inspired me with his dedication and motivation to get things done right, and his creative genius brewed from a potent mix of the arts, technology and culture.

Friends, I look forward to your continued support in our efforts to revitalize Caribbean development for the benefit of our children and theirs. This is the only reason I decided to accept the appointment as Principal at the St. Augustine Campus of The University of the West Indies.

I thank you