The UWI-NGC
Research Awards Ceremony
Celebrating Excellence in Research

Wednesday 8th June, 2016
5:30 PM
Learning Resource Centre
Messages
As Pro Vice-Chancellor and Campus Principal, I am extremely pleased that The UWI St. Augustine Campus is hosting its third biennial UWI-NGC Research Awards Ceremony. Started in 2012, under the auspices of the Office of the Campus Principal, this Research Awards Ceremony has given our Campus the opportunity to celebrate and recognize those among us—across our Faculties, Departments, Institutes and Centers. It has involved both staff and students, who have excelled in their research endeavours; particularly those individuals whose research efforts have benefited the people of Trinidad and Tobago and the wider Caribbean region.

Indeed, I have always been of the firm belief that whatever progress we make in our respective fields of research, it must show applicability in a real sense to the wider public. Our research must touch the lives of the people we serve. We must therefore always endeavour to take our research out of the realm of the arcane, and place it into the homes, the businesses, the hospitals, the farms, the schools, the industries and the playing fields of our stakeholders and policy makers; in the form of new products, processes, policies and systems. We must play a fundamental role in society, not only in the pursuit of new knowledge and understanding, but also in our efforts to bring about positive change and transformation through innovation and the application of our research to the everyday needs of our societies. This approach will ensure that as a University we demonstrate relevance in what we do and as a respected partner in development, we continue to win the confidence and support of the public and private sectors. This means going beyond the traditional outputs of research, such as scholarly publications in respected journals. As a University, we must be ever so vigilant, to communicate openly the important work that we do. More importantly, it is critical to engage your interest and attention. Only in so doing, are we able to demonstrate the value and impact of the world of research and innovation.

Making research relevant and impacting has been the central philosophy behind the creation of The UWI-Trinidad and Tobago Research and Development Impact Fund (RDI Fund). Over the last 4 years this fund has supported and promoted multi-disciplinary research projects that address pressing issues in six thematic areas that are directly related to national and regional development—Climate Change and Environmental Issues; Crime, Violence and Citizen Security; Economic Diversification and Sector Competitiveness; Finance and Entrepreneurship; Public Health; and Technology and Society. We have focused our research by giving priority to societal needs; with this approach, we are certain that we would have maximum impact on the lives of the people we serve in our communities. I have urged our researchers to engage the relevant sectors in the pursuit of their research, and to let them be a part of the solution that may be proposed to the problem being
addressed and hence make the communication and transfer of knowledge more effective. We cannot be complacent about the transfer of research knowledge from university to society. We must ensure that we are creative in our communication channels.

And so, to all research awardees, I extend heartfelt congratulations! You are exemplars of excellence at The UWI. It is my hope that these Awards will serve to inspire even more of our UWI colleagues, and in particular, our young academic staff and graduate students, to push the frontiers of research with the main goal of creating a better quality of life for the people of our country and region.

I would also like to extend special thanks to our corporate partner, the National Gas Company of Trinidad and Tobago Limited (NGC), for its continued support of the research enterprise at The UWI St. Augustine Campus. The partnership between academia and industry is central to our university’s efforts at fostering creativity and innovation. It accomplishes much more than developing only new products, services and more efficient business processes, but also advances new ideas that shape intellectual discourse, advocacy and policy making at many levels.

As I prepare to leave office as Campus Principal, I am pleased with what we have done to restructure our research portfolio, now being able to re-ignite a passion and excitement towards putting this fund to good use, by maximizing the many research possibilities on the Campus. It is my hope that The UWI St. Augustine Campus will continue to build on the culture of research excellence that has been so formidably established over the years. While so much has been done, there is always so much more to do – The UWI indeed has an ageless mission of serving the region of the Caribbean and beyond.

PROFESSOR CLEMENT K. SANKAT
Pro Vice Chancellor and Campus Principal
The University of the West Indies
St. Augustine, Trinidad
The National Gas Company of Trinidad and Tobago Limited (NGC) is honoured to partner with the University of the West Indies (UWI) to recognise and reward the scholarship of those academics whose work has been judged most impactful in their respective fields for the past three years.

For many years, education has been an axis of NGC’s Corporate Social Responsibility programme. We have actively engaged with the UWI’s St. Augustine Campus since 1994, through our support of the Institute of Engineering, grants for BSc students in the Petroleum Geoscience programme, contributions to the University’s Graduate and Research Fund, as well as its Development and Endowment Fund and sponsorship of the 2010, 2011 and 2012 Conference on the Economy. Since then, NGC has strengthened its commitment to investing in the University through sponsorship of the UWI Research Awards, Research Forum, Research Expo and a Chair in Innovation and Entrepreneurship.

NGC recognises that universities are incubators for innovation, and as a company adapting to an evolving industry, we fully support the production of new knowledge. Research is pivotal to progress, and it is imperative that as a country, we encourage this enterprise and celebrate the achievements of our intellectual vanguard.

NGC congratulates this year’s awardees on their outstanding work – it is work that matters, that has effected change and enriched our society. We also applaud UWI for its dedication to achieving distinction in academia, and we challenge the institution to seek even greater heights.

MR. GERRY BROOKS
Chairman
National Gas Company of Trinidad and Tobago Limited (NGC)
Research sits at the heart of the UWI strategic agenda. We have long realized our role as agents of transformation and champions for change. Over the years, The UWI has established itself as a port of call for expertise on local, regional and international issues. We continue to reinvent ourselves and become immersed in research that is relevant, impactful, visible and accessible to our citizens, governments, the public and private sector, and international bodies. Heartiest congratulations to the members of our community who have been selected as awardees. They have made a commitment to positively enhance the quality of life of the people we serve and we recognize their contributions to the twin island republic of Trinidad and Tobago, the region and the world. Special mention must be made of the teamwork and support offered by the graduate student community, the Administrative, Technical and Service staff whose collective passion and action have helped further the research agenda of The UWI. Their contributions to academic excellence are symbolic of the nature and scope of research needed to sustain the life of The UWI. We fully recognize that collaborations with external entities are critical to the fulfilment of our mandate. The National Gas Company of Trinidad and Tobago Limited shares our vision and have shown their support of initiatives such as The UWI Research Forum, the Graduate and Research Fund, Research Expo, the Innovation and Entrepreneurship Programme and of course, the Research Awards Ceremony. We are grateful for the constant reassurance that they are in sync with the rhythm of The UWI. As we celebrate our accomplishments, let us not lose sight of the possibilities before us as our priorities change over time and new challenges emerge. Our research must never be deemed anachronistic but timely, never rigid but flexible in its operations, never irrelevant but innovative and a must fit with local realities. The UWI will remain a “true representation of an innovative, internationally competitive, contemporary university deeply rooted in the Caribbean.”

PROFESSOR SIR HILARY BECKLES
Vice Chancellor
The University of the West Indies
Research is the systematic investigation into, and study of, materials and sources in order to establish facts and reach new conclusions. Research, development and innovation are the rudimentary principles for Caribbean sustainable economic growth, and The University of the West Indies must play a lead role in the discourse on strategies for a sustainable development model, through the expansion of applied research and the development of a matrix for industry and academic partnerships. As Pro Vice Chancellor for Graduate Studies and Research, I am charged with the responsibility for maintaining and improving the quality of graduate programmes at The UWI as well as to enhance research output and to develop a larger, more active body of researchers (17 countries, 4 campuses). One of the major roles of any university is to create new knowledge and research is that engine which drives new knowledge. It is the creation of new knowledge that places a University on the global stage and the sharing of that new knowledge by those very same researchers in publications and in lectures that maintains the academy. It is research that makes the REAL difference at The UWI. The St. Augustine Campus of The UWI continues to demonstrate many of those stellar attributes, making a difference, with outstanding researchers in all spheres of academia and The National Gas Company of Trinidad and Tobago sponsored Research Awards Ceremony is a most fitting platform on which to recognize the efforts, successes and brilliance. My warm congratulations to all awardees and let us keep in mind the dedication, discipline and determination of those who participate in the research venture of the campus. Let us celebrate their successes and acknowledge their contributions.

PROFESSOR DALE WEBBER
Pro Vice-Chancellor - Graduate Studies and Research
The University of the West Indies
From the Office of Research, Development & Knowledge Transfer

Research and Innovation is the critical activity at The University of the West Indies that distinguishes us from other Caribbean universities and gives us recognition on the global stage, but only if we conduct research that has impact. I like to think that research can have impact in two different, but not necessarily mutually exclusive ways. There is research that has impact in the sense of advancing knowledge in a particular field. It is this type of research that allows The UWI to be a part of the global pursuit of knowledge, and that gives us the international recognition and sense of regional pride that flows from this. There is also research that has impact in the sense of contributing in a tangible and measurable way to national and regional development in the countries that we serve. More effective linking of the knowledge produced through this type of research with the knowledge users in our public and private sectors is the key to our University having significant national and regional developmental impact. So let me close by congratulating all of this evening’s Awardees, for we can only talk the talk. We are dependent on you, on your personal pursuit of research excellence, to walk the walk for us. On behalf of The University of the West Indies, I thank you for this.

PROFESSOR WAYNE HUNTE
Office of Research, Development and Knowledge Transfer
The University of the West Indies
St. Augustine, Trinidad
Faculty Awards

At the 2016 Research Awards Ceremony, recognition will be given to work undertaken and results achieved over the past 3 years. The application and selection process was carried out across the seven (7) Faculties.

The respective faculties were asked to consider applications from academic staff members in the various Departments, as well as affiliated Units, Centres and Institutes. Nominated award recipients were forwarded by the Dean to the Office of Campus Principal.
MOST OUTSTANDING RESEARCHER
An award for the researcher who has demonstrated the highest research productivity and research quality over the past three (3) years and through this has extensive knowledge in a specific discipline and/or has contributed significantly to national and/or regional development.

Professor Brent Wilson
Department of Chemical Engineering
Faculty of Engineering

Professor Brent Wilson, Professor of Palaeontology and Geology, uses microscopic fossils in marine sedimentary rocks to understand their environments and tell their geological ages. This determines the architecture and interconnectedness of hydrocarbon-bearing rocks by using the fossils for finding points of the same geological age at different locations, called correlation. Such knowledge is vital for production from deep-water oil fields.

Professor Wilson has developed and implemented an assemblage turnover index (ATI) that quantifies the difference in assemblage composition of two samples of fossils. Peaks in ATI through a series of samples mark points of enhanced turnover that can be used for correlation. He has found that peaks in ATI for series of samples of microfossils from deep sea oil wells coincide with meltings at the ends of the glacials. This allows researchers for the first time to correlate rock successions precisely between abyssal (deeper than 2000 m) and nearshore environments.

His work has been published in several international journals and has won him accolades, including an award from the Geological Society of Trinidad and Tobago. Professor Wilson is a Research Associate of the Smithsonian Institution, Washington, DC, an adjunct professor at Dalhousie University, Canada, and an assistant editor of the Journal of Foraminiferal Research.
Dr. Wayne Ganpat

Department of Agricultural Economics and Extension
Faculty of Food and Agriculture

Dr. Wayne Ganpat is a Senior Lecturer and Head of the Department of Agricultural Economics and Extension. His work focuses on improving extension competencies among extension staff and sustainable food production practices in the Caribbean.

Some of his most significant work was included in a Delphi study that sought to describe how Caribbean extension directors envisioned the extension and advisory services (EAS). The results were used to develop the emerging Caribbean extension providers network (CAEPNet) – a network of regional extension directors – with the aim of modernising extension services. The article earned an award for Journal Article of the Year in the Journal of International Agricultural and Extension Education.

A highly productive researcher, in the last three years Dr. Ganpat has published 22 refereed journal articles, co-edited two books on sustainable food production practices in the Caribbean and one on the impacts of climate change on food production in small island developing states. He has also authored a book on extension development in Trinidad and Tobago. These books have been made essential reading material for all modules on the CAPE Agricultural Science syllabus.

Dr. Ganpat has received several awards, including the 2005 Outstanding Leadership award from the Association for International Agricultural and Extension Education and the 2003 Green Leaf award for communication in the field of environment protection and conservation from the Environmental Management Authority of Trinidad and Tobago. Before joining The UWI he was the Deputy Director of Extension in the Ministry of Agriculture, and until 2015 he served on the National Agricultural Advisory Committee.
Dr. Jerome DeLisle

School of Education
Faculty of Humanities and Education

Dr. Jerome DeLisle is a Senior Lecturer in the School of Education, and a second-time recipient of the Most Outstanding Researcher Award. He is also the Deputy Dean of Graduate Studies and Research in the Faculty of Humanities and Education. His work focuses on educational assessment, including formative assessment, programme evaluation, public examinations and data use. Dr. DeLisle also addresses system reform and policy issues, and examines educational inequalities due to gender, socioeconomic status and geographic location.

In the last three years, his research has been published as eight peer reviewed articles, six in high impact international peer reviewed publications; and he has presented 29 papers at international conferences, nine of which had peer reviewed extended proposals. These articles and presentations have focused on generating robust modern theory for secondary school entrance examinations. Three of the international peer-reviewed articles have also been published on the system use of data from national and international large scale assessments (NLSA & ISLA). His most impactful work has directly informed evidence-based policy and research in the Ministry of Education.

Dr. DeLisle is a recognised education expert who has been invited to present at conferences like the 19th Conference of Commonwealth Education Ministers, and has received several awards, including the Best Research Proposal in Caribbean and African Studies in Education (CASE) Special Interest Group at the 2016 American Educational Research Association.

He has attracted more than $2.3 million in funding for an IDB funded evaluation of the 2013 new primary school curriculum, and for individual consultancy on improving system use of data. Dr. DeLisle was also instrumental in forming a network with the Accreditation Council of Trinidad and Tobago to improve research capacity.
A veterinary surgeon and Professor of Veterinary Virology, Professor Christopher Oura researches molecular biology, immunopathology, molecular diagnostics and molecular epidemiology, in relation to viruses and haemoparasites affecting animals and humans. He introduced the “One Health” concept across the Caribbean, for which he is also being honoured with this year’s Most Outstanding Regional Research Project award.

Among his most important work has been to successfully identify the ‘baseline’ of viruses present in the swine, dairy cattle and poultry populations of Trinidad and Tobago. By improving the understanding of the epidemiology of these diseases in the Caribbean context, Professor Oura has not only helped to develop the capacity and capability to diagnose priority pathogens, but has also enabled Caribbean farmers and livestock producers to reduce the economic impact of these diseases on their livestock.

Professor Oura is widely published, having produced 22 peer-reviewed articles and authored five book chapters in the last three years. As an expert in his field, he has been invited to give presentations at 15 international conferences. His outstanding research has also attracted more than US $1.75 million in grant funding from The UWI, the European Commission (EC) African Caribbean Pacific (ACP) Science and Technology, and the Inter-American Institute for Cooperation on Agriculture (IICA).
Professor Dave Chadee  
*Department of Life Sciences*  
*Faculty of Science and Agriculture*

This is Professor Dave Chadee's third consecutive award for Most Outstanding Researcher. His work investigates the epidemiology, biology and control of vector-borne diseases and the impacts and adaptation of climate change on health. Since winning his last award, Professor Chadee has published 22 peer reviewed papers in international journals, as well as a supplement in Acta Tropica on the biology of male mosquitoes. He has also authored a book on flooding and climate change.

Over the past three years, Professor Chadee has added extensively to the understanding of mosquito vectors with the aim of combatting the dengue, chikungunya and zika viruses. Through his research, he has determined the daily activity cycle of *Aedes Aegypti* mosquitoes, that most mosquitoes are found resting in bedrooms (82%), and for the first time, has discovered that climate change was modifying the behaviour of *Aedes aegypti*, potentially increasing virus transmission.

A highly acclaimed researcher, Professor Chadee has won several awards, including the Anthony Sabga Caribbean Award for Excellence, the NIHESRT Emmanuel C. Amoroso Award, and the 2015 Caribbean Public Health Agency Award for “Outstanding Contribution in the area of Public Health including Vector Control”.

He is considered an international expert in his field, and has been a consultant to the International Atomic Energy Agency (IAEA). He is also a member of the Regional Program Review Group on Lymphatic Filariasis elimination in the Americas (World Health Organization/Pan American Health Organization), chairman of the Scientific Review Committee of the South West Regional Health Authority Clinical Governance and Ethics Committee, and the local secretary of the Royal Society of Tropical Medicine and Hygiene (UK).
MOST PRODUCTIVE RESEARCH DEPARTMENT
An award for the Department, Institute, Centre or Unit which has demonstrated the highest research productivity and research quality over the past three (3) years.

Department of Mechanical and Manufacturing Engineering
Faculty of Engineering

HEAD OF DEPARTMENT: Professor Boppana Chowdary

ACADEMIC STAFF:

Professor Edwin Ekwue, Professor Kit-Fai Pun, Professor Chanan Syan, Professor Winston Lewis, Dr. Krishpersad Manohar, Dr. Jacqueline Bridge, Dr. Chris Maharaj, Dr. Ruel Ellis, Dr. Graham King, Dr. Terrence Lalla, Dr. Ojha Kuldeep, Dr. Renique Murray, Dr. Legena Henry, Dr. Randy Harnarinesingh, Ms. Cilla Benjamin, Ms. Ayanna-Rene De Noon.

The Department of Mechanical and Manufacturing Engineering is being awarded for Most Productive Research Department for the third consecutive time. Its researchers have made valuable contributions to the study of rapid product design and prototyping, manufacturing engineering and management, thermal and electrical conductivity of soils, the use of sensors to measure water contents in soils, the effect of machinery traffic and amendments on soil strength and erosion, technology management, renewable energy, brain computer interface, and vehicle emissions.

The department’s most significant research activities continue to add new knowledge and show potential for solving real world problems. One such project optimises process parameters with the intention of fabricating high-quality and dimensionally accurate parts to the local manufacturing sector. Another investigates the impact of vehicle emissions on air quality along congested roadways in Trinidad and Tobago to propose innovative and enforceable traffic legislation.

Other research, like the continuing study of thermal and electrical conductivity of common soils in Trinidad has newly determined that, given field conditions could be simulated, these soil conditions could be measured in the laboratory. This means that existing models could be used to determine the values of these parameters for Trinidadian soils, which could then be applied to the laying of underground cables among other uses.

The department has produced more than 127 publications, conference proceedings and technical reports. Its commitment to nurturing new scholars has also continued, having graduated two MPhil and 4 PhD candidates since 2013. Currently, there are six MPhil and 9 Ph.D students enrolled. One of the department’s dedicated staff members, Professor Chanan Syan, will be receiving an award for Outstanding Research Mentorship at this evening’s ceremony.
Department of Agricultural Economics and Extension
Faculty of Food and Agriculture

HEAD OF DEPARTMENT:
Dr. Wayne Ganpat

ACADEMIC STAFF:
Professor Mattias Boman, Professor Carlisle Pemberton, Dr. Govind Seepersad, Dr. Marquitta Webb, Dr. Saeed Halilu Bawa, Dr. David Dolly, Dr. Isabella Francis-Granderson, Dr. Kathiravan Gopalan, Dr. Margaret Gordon, Dr. Sharon Hutchinson, Dr. Selby Nichols, Dr. Hazel Patterson-Andrews, Ms. Dianne Buckmire, Ms. Nequesha Dalrymple, Ms. Chanelle Joseph, Ms. Anisa Ramcharitar-Bourne.

The Department of Agricultural Economics and Extension covers a wide range of research specializations, including environmental and natural resource management, environmental economics, trade policy, production economics, agricultural economics, livestock and animal health economics. Other research specializations are nutrition for prevention and management of non-communicable diseases, sports nutrition, adolescent clothing behaviours, agricultural extension, and agricultural communication.

Over the last three years, the Department has conducted extensive research in the areas of food and nutrition security, natural resources and watershed management, and sustainable development of the citrus industry. These research projects have attracted CAD $2,064,300, over €142,000, and TT$600,000 in research funding, respectively. The work from natural resources management and watershed management project, led by Professor Carlisle Pemberton earned the Most Outstanding International Research Project Award in 2014.

The Department’s distinctive research continues to be impactful and has been recognized internationally. As a result of the work of the department, Ministries of Agriculture, Health, and Education across the Caribbean were able to join in an integrated effort and formalize a ministerial memorandum of understanding to tackle childhood obesity. Further, some school administrators prohibited the sale of soft drinks and other high calorie snacks in an effort to reduce the rate of childhood obesity based on the research insights from this department’s research. Many resources, such as DVDs have been developed for use in schools, as well as to assist with the transfer of new knowledge to stakeholders, such as farmers, extension officers, and students.

Over the last three years, the Department of Agricultural Economics and Extension has produced over 112 journal articles, books, book chapters, conference proceedings and technical reports. During that same period, it graduated two PhD and five MPhil students, and it currently has 17 PhD and 15 MPhil students enrolled.
Department of Clinical Medical Sciences
Faculty of Medical Sciences

HEAD OF DEPARTMENT:
Dr. Nelleen Baboolal

ACADEMIC STAFF:
Dean Terence Seemungal, Professor Surujpal Teelucksingh, Professor Gerard Hutchinson, Dr. Sandra Reid, Dr. Paramanand Maharaj, Dr. Virendra Singh, Dr. Sherman Soman, Dr. Windsor Frederick, Dr. Alexander Sinanan, Dr. Jamaal Brown, Dr. Ronan Ali, Dr. Ravindra Maharaj, Dr. Sateesh Sakhamuri, Dr. Ian Hypolite, Dr. Katiija Khan, Dr. Anthony Boufoy-Bastick, Dr. Zulaika Ali, Dr. Jasmine Ramcharan, Dr. Beni Balkaran, Dr. Sherry Sandy.

Researchers in the Department of Clinical Medical Sciences study topics across many medical specialities, including pulmonology, endocrinology, paediatrics, sports medicine, psychiatry, radiology, neurology, neuropsychology, cardiology, gastroenterology and palliative care.

Some of the more outstanding projects have seen researchers develop a model for anger management treatment, taught to prison officers to be used on inmates; investigate the experience and methods of help-seeking in different cultures with regard to first episode psychosis; and contribute to a worldwide initiative to determine the prevalence and burden of chronic obstructive pulmonary disease (COPD).

Other projects have studied body mass index and its associated health and educational effects in a selected population of secondary school age students; determined the need for a national screening and treatment programme for diabetes in pregnancy; and worked to develop a Caribbean Regional Non-Communicable Diseases (NCD) Surveillance System to better plan for, deliver and monitor programmes and protocols targeting chronic disease prevention, control and health promotion.

These and other works have brought much recognition to the department, earning it several awards, including the 2014 awards for Most Outstanding Regional Research Project and Most Impacting Research Project. This year the department has been awarded as both the Most Productive Research Department, as well as contributing to the Best Research Team Encouraging Multi-disciplinary Research. The department has also successfully attracted nearly $12.7 million in research funding within the last three years.

Research findings have been published in 56 journals, proceedings and technical reports. The department has had two MPhil graduates in the last three years, and currently has two registered PhD candidates.
Department of Life Sciences  
Faculty of Science and Agriculture

HEAD OF DEPARTMENT:  
Dr. Adesh Ramsubhag

ACADEMIC STAFF:  
Dean Indar Ramnarine, Professor John Agard, Professor Dave Chadee, Professor Jayaraj Jayaraman, Dr. Gregor Barclay, Dr. Valerie Bowrin, Dr. Georgette Briggs, Dr. Chinnadura Chinaraja, Dr. Brian Cockburn, Dr. Amy Deacon, Dr. Winston Elibox, Dr. Aidan Farrell, Dr. Fazzeeda Mohammed, Dr. Judith Gobin, Dr. Adrian Hailey, Dr. Trina Halfhide, Dr. Rajini Haraksingh, Dr. Ayub Khan, Dr. Adrian Lennon, Dr. Milena Mechkarska, Dr. Azad Mohammed, Dr. Michael Oatham, Dr. Dawn Phillip, Dr. Sephra Rampersad, Dr. Luke Rostant, Dr. Judy Rouse-Miller, Dr. Santoshi Muppala, Dr. Nigel Austin, Mr. Mike Rutherford, Mrs. Yasmine Baksh-Comeau.

Research in the Department of Life Sciences is mainly in pure and applied biological sciences with a major emphasis on small island biodiversity and environmental management, and in biotechnology.

Research activities within the last three years have been centred around projects on assessment of biodiversity and ecosystem services; conservation and management of natural resources (tropical forests, wildlife, coral reefs, wetlands, fisheries); epidemiology of mosquito borne viral diseases and management of their vectors; pollution impacts and management; climate change vulnerability, impact and adaptation; bioprospecting for novel drugs from microorganisms; physiology and metabolism of tropical plants; developing non-invasive methods of diagnosing diabetes; breeding novel plant varieties; and sustainable pest and disease management of tropical crops. Research in the area of management of mosquito vectors has been awarded as the Most Outstanding International Research Project this year.

Over the last three years, the department has attracted over TT $18 million in funding from local and international donors such as the European Union, The African, Caribbean and Pacific Group of States (ACP), International Development Research Centre (IDRC) and the Government of the Republic of Trinidad and Tobago. Most of the research is conducted in collaboration with partners such as government ministries and university departments from various UWI campuses, the University of Notre Dame, the University of Oxford, the University of Cambridge and the University of St. Andrews in Scotland. Other partners have included international institutions like J. Craig Venter Institute, CIRAD, WHO and PAHO.

Since 2014, this highly productive department has published 60 peer-reviewed journal articles, book chapters and books. It has graduated one PhD and two MPhil students, and currently has 23 PhD and 22 MPhil candidates registered.
BEST RESEARCH TEAM - ENCOURAGING MULTI-DISCIPLINARY RESEARCH

An award for the research team which, in addition to demonstrating coherence and outstanding research quality as a team over the last three (3) years, has integrated a multi-disciplinary approach in project methodology and team composition.

“Mitigating the Dementia Tsunami in Trinidad and Tobago” Project

TEAM LEADERS:

Dr. Nelleen Baboolal
Department of Clinical Medical Sciences
Faculty of Medical Sciences

Dr. Gershwin Davis
Department of Para-Clinical Sciences
Faculty of Medical Sciences

TEAM MEMBERS: Professor Amanda McRae, Professor Emeritus Karl Theodore, Dr.Althea La Foucade, Professor Robert Stewart (Institute of Psychiatry, King’s College, London UK).

The multi-disciplinary team of researchers in the areas of basic health science, clinical science, epidemiology, economics and demography, investigated the prevalence and economic cost of dementia in Trinidad and Tobago. The team was headed jointly by Senior Lecturer and Head of the Department of Clinical Medical Sciences, Dr. Nelleen Baboolal, and Senior Lecturer of Chemical Pathology, Dr. Gerswhin Davis.

The project was able to determine an age-stratified dementia prevalence by ethnicity and a chronic disease profile for the elderly in Trinidad. The study showed that dementia prevalence is strongly associated with increased age, level of education and vascular risk factors. Notably, it also showed that Trinidadians 70-89 years have a dementia prevalence higher than anywhere else in the world.

As part of the project, the team launched a website to promote dementia awareness. It raises public awareness, which in turn could reduce stigmas surrounding the disorder, encourage early diagnosis, help family and caregivers cope with the disorder, lead to the adoption of healthier life styles which could postpone the onset of dementia. The project also makes it possible to equip policy makers with the information needed to make dementia a national priority by adopting and implementing a National Dementia Plan.
“AgriNeTT: An Agriculture Knowledge ePortal: Research on Intelligent Decision Support for enhancing Crop and Livestock Enterprise Management” Project

TEAM LEADER:  
Dr. Margaret Bernard  
Department of Computing and Information Technology  
Faculty of Science and Technology

TEAM MEMBERS: Professor Carlisle Pemberton, Professor Patrick Hosein, Dr. Rene Jordan, Dr. Wayne Goodridge, Dr. Gaius Eudoxie, Mr. Kyle De Freitas, Ms. Shamin Renwick, Mr. Naresh Seegobin, Mr. Kiran Maharaj, Ms. Omaira Avila, Mr. Renaldo Belfon.

Key Collaborators: Mr. Terrence Haywood (President, Caura Farmers Association), Mr. Prakash Ragbir (ICT Manager, NAMDEVCO, Ministry of Agriculture), Mr. Norman Gibson (Head, Trinidad and Tobago Unit, CARDI), Ms. Lystra Fletcher Paul (Country Representative, FAO), Dr. Bheshem Ramlal (Department of Geomatics, Engineering and Land Management, UWI), TTREN (Trinidad and Tobago Research and Education Network).

The AgriNeTT team provides ICT tools and agriculture information to farmers and agricultural institutions to help increase the competitiveness and drive economic growth of the agriculture sector. The agriculture data resides on two Open Data platforms. AgriNeTT has also developed mobile and web-based applications, including: AgriExpense – a farm financial management tool; AgriPrice – an application providing up-to-date data on market prices; AgriMaps – a land suitability tool, which recommends preferred crops for various parcels of land; and AgriDiagnose – a pest and disease diagnosis system.

Led by Dr. Margaret Bernard, Senior Lecturer in the Department of Computing and Information Technology and Deputy Dean – Graduate Studies and Research in the Faculty of Science and Technology, this research team brings together academics from the Department of Computing and Information Technology, the Faculty of Food and Agriculture, as well as persons from the public and private agricultural sectors. Its main collaborators are the Caribbean Agriculture Research and Development Institute (CARDI), Technical Centre for Agricultural and Rural Cooperation (CTA), the Ministry of Agriculture, the National Agricultural Marketing and Development Corporation (NAMDEVCO), the Food and Agriculture Organization of the United Nations (FAO), the Cocoa Research Centre, Centeno, and the Trinidad and Tobago Meteorological Services.

AgriNeTT has been recognized by the 2016 World Summit on the Information Society (WSIS) for its contribution to the United Nations’ Sustainable Development Goals. It is among five projects from around the world selected in the e-Agriculture category at WSIS Forum 2016, linked to the second UN development goal: to end hunger, achieve food security and improved nutrition, and to promote sustainable agriculture.
“The Impact of the Contaminants Produced by the Guanapo Landfill on the Surrounding Environment” Project

TEAM LEADER:  
Dr. Denise Beckles  
Department of Chemistry  
Faculty of Science and Technology

TEAM MEMBERS:  
Dr. Grace-Anne Bent, Dr. Leonette Cox, Dr. Ricardo Clarke, Dr. Xsitaaz Chadee, Dr. Vincent Cooper, Dr. Kailas Banerjee, Professor E. Monica Davis, Ms. Sharda Mahabir (Water Resources Agency, Water and Sewerage Authority), Ms. Maria Allong (Trinidad and Tobago Solid Waste Management Company Limited).

This multi-disciplinary team of researchers from the Faculties of Science and Technology, Engineering and Medical Sciences, under the leadership of Dr. Denise Beckles, Lecturer in the Department of Chemistry, studied the extent of contamination from the Guanapo Landfill to the air, water and soil, and its potential impacts. Not only did this work exemplify the best of cross-faculty collaboration, earning it the award for Best Research Team Encouraging Multi-disciplinary Research, but the project is also being awarded as the Most Impacting Research Project.

Bringing perspectives and expertise from their differing disciplines to bear, the project team generated chemical data, informed ecological risk and public health assessments and also formulated relevant and achievable mitigation strategies for the pollution observed in the area. The team worked closely with the Water and Sewerage Authority of Trinidad and Tobago (WASA) and the Trinidad and Tobago Solid Waste Management Company (SWMCOL), and in the end, provided the basis for meaningful, data-driven mitigation strategies for the Guanapo Landfill. The research drove policy changes at SWMCOL and was used as the scientific justification in SWMCOL’s successful bid for government funding to build a leachate treatment system.

The experience of the team in working in the Heights of Guanapo resulted in a successful funding application to the Global Environment Facility’s Small Grants Programme (GEF-SGP) of the United Nations Development Programme (UNDP) for further research into science education as a strategy to mitigate the impact of climate change.
Graduate Student and Research Mentor Awards

Guiding, mentoring and supporting our MPhil and PhD students and junior staff members are central to nurturing a cadre of young researchers whose passion for research would push the frontiers of new knowledge in a particular discipline.

The Most Outstanding Graduate Researcher Award
Four Awards, two in the Sciences and two for the Arts/Humanities/Social Sciences will be given to MPhil and/or PhD students who complete their studies in the academic years 2013/14 and 2014/15 and whose theses received high commendation. The Campus Committee for Graduate Studies and Research conducts this assessment based on criteria such as technical assessment, originality, clarity of organization and presentation and impact of the research on the field of study and/or society.

The Outstanding Research Mentorship Award
An Award will also be presented to the lead supervisor(s) of the recipient of the Most Outstanding Graduate Researcher Award in recognition of the scholarly guidance and mentorship provided to the graduate student.
MOST OUTSTANDING GRADUATE RESEARCHERS

Dr. Vidya DeGannes
PhD in Soil Science (2014)
Department of Food Production
Faculty of Food and Agriculture

Dr. Vidya DeGannes used cutting edge DNA sequencing approaches to explore microbial communities in soils and composts. In her thesis, “Molecular Microbial Ecology and Nitrifying communities of Tropical Composts and Soils”, Dr. DeGannes identified 15 species of potential human pathogens, eight of which had not been previously identified in composts. She also discovered the mature-phase compost was a preferred niche for the Archaea, Planctomycetes, Chloroflexi and Deltaproteo bacteria; and that ammonia oxidizing archaea and bacteria were affected by differing sets of soil properties.

The study provided the first in-depth insights into microbial communities native to tropical composts and soils. The identification of potential human pathogens could have important implications for compost use and safety. Additionally, nitrification patterns and levels differed in the composts which, for the mature material, could have significant effects on its performance as a plant growth medium.

Dr. DeGannes’ work generated five refereed publications and earned her the 2014 Faculty of Food & Agriculture Dean’s award for excellence in PhD Soil Science. In 2015, she also won the UWI Employee Excellence (Technical Staff) award.

Still involved in research in the areas of biotechnology, environmental microbiology and microbial ecology, Dr. DeGannes works as a Senior Technician in the Department of Food Production, Faculty of Food & Agriculture.
In his dissertation, “Will CARICOM’s Real Natural Trading Partner Please Stand up?”, Dr. Jeetendra Khadan presented four empirical studies on bilateral trade among members of the Caribbean Community (CARICOM) and between CARICOM countries and their extra-regional trading partners. He measured the level of complementarity in comparative advantage structures for CARICOM countries and tested its significance as a determinant of Caribbean trade within the context of declining non-reciprocal trade preferences.

The research adds greater theoretical and empirical knowledge useful to policymakers, and directs CARICOM economies to place greater emphasis on developing stronger ties with other developing and emerging economies.

Dr. Khadan’s work has been presented at 11 conferences, published in nine journals and appears as chapters in two books. He has received several student awards for Economics, as well as awards for Education from the Board of Management of the Sangre Grande Civic Center and Sanatan Dharma Maha Sabha, Northeast Regional Council of Sangre Grande.

Today, Dr. Khadan works as an Economics Consultant at the Inter-American Development Bank in Washington, DC.
Dr. Randy Harnarinesingh investigated a novel protocol for using Brain-Computer Interfaces (BCIs) in his thesis, “Brain-Computer Interfacing Using the Mirrored Word Reading Paradigm”. BCIs permit non-invasive communication and device control by recording and interpreting brain activity. His research successfully validated Mirrored Word Reading Protocol (MWRP) for the control of a mobile vehicular platform.

This work, which is particularly useful for disabled individuals with limited mobility and communication functions, shows that MWRP provides an avenue for using BCIs in cases where existing paradigms are inappropriate due to perceptive and contextual limitations.

Dr. Harnarinesingh is a double national scholar, having been awarded scholarships from the Government of Trinidad and Tobago to complete both undergraduate and graduate studies in Electrical and Computer Engineering and Mechanical Engineering respectively. In 2007, he won the Honeywell Prize for Top Student in ECNG 2009 (Control Systems). His work has also appeared in several international conferences and scientific journals, such as the International Journal of Intelligent Systems Technologies and Applications and the American Journal of Applied Sciences.

Currently an Assistant Lecturer with the Department of Mechanical & Manufacturing Engineering, Dr. Harnarinesingh continues to build on his thesis work and is involved in further research and publication.
Dr. Kwynn Johnson
PhD in Cultural Studies (2015)
Department of Literary, Cultural and Communication Studies
Faculty of Humanities and Education

Dr. Kwynn Johnson used practice-based research to examine the concept of “ruinscapes” within theories of trauma and representation in Haiti following the devastating earthquake that struck the country in 2010. In her thesis, entitled “How the Light Enters: Visualising Absence and Continuity in the Jacmelian Ruinscape”, Dr. Johnson illustrated the ways ruinscapes are re-lived in the ordinary daily activities of life, and the ways survivors house the silences of trauma.

The work advances research in the field of Haitian Studies by a Caribbean-based scholar, using the practice-based research methodology and a Cultural Studies approach. It also explores Haiti’s continued relevance to the contemporary Caribbean.

Dr. Johnson, who received her PhD in Cultural Studies with high commendation, is now a Lecturer in The Department of Creative and Festival Arts. She continues to use practice-based research methodology in the field of Haitian Studies, and is currently working in the town of Toussaint L’Ouverture, Cap-Haïtien in northern Haiti.
AWARDS FOR OUTSTANDING RESEARCH
MENTORSHIP

Dr. Gaius Eudoxie
Department of Food Production
Faculty of Food and Agriculture

Dr. Gaius Eudoxie, along with Professor William J. Hickey from the Department of Soil Science, University of Wisconsin-Madison, mentored Outstanding Graduate Researcher awardee, Dr. Vidya DeGannes. Dr. Eudoxie thinks that the research into the microbiology of tropical compost microbiology has set the foundation for others to explore further aspects of tropical composting. As a mentor, Dr. Eudoxie values experiencing the progression and transition of students into experts and colleagues. He works together with students to develop and grow, providing an enabling environment where students feel comfortable communicating and discussing ideas. Dr. Eudoxie is a Lecturer in Soil Science who has supervised six graduate students over the past three years. His areas of research include: composting and compost use, particularly recycling agricultural and other waste streams to horticulturally useable products; compost and compost teas as agents of nutrition and disease suppression for organic and sustainable systems; and crop nutrition and soil fertility management in sustainable systems.

Professor William J. Hickey
Department of Soil Science
College of Agricultural and Life Sciences
University of Madison-Wisconsin

Professor William J. Hickey is a Professor of Soil Microbiology in the Department of Soil Science (25 years), University of Wisconsin-Madison (UW). He is also the Associate Director of the Molecular & Environmental Toxicology Centre at UW and serves as Faculty Advisor, International Programs, at The UWI, St. Augustine Campus, focusing on Trinidad student exchange. Professor Hickey has dedicatedly supervised over 20 post graduate students and served as advisor for six post-doctoral students. He has authored 65 referred publications, five book chapters and 48 conference presentations. He has made sterling contributions to Science in the areas of Bioremediation, Soil Microbiology, Environmental Biotechnology/Microbiology, Soil Biology, Molecular Biology and Ecotoxicology with these being his main research interests. He has pioneered studies in the Development of tools for genetic analysis of phenanthrene degradation and nanopod production by Delftia sp. Cs1-4 and Nanopods: A New Bacterial Structure and Mechanism for Deployment of Outer Membrane Vesicles. As of 2016, Google Scholar reports over 2,000 citations to his work. Professor Hickey has served on many editorial boards and is currently on several including Frontiers of Microbiology and Journal of Environmental Quality.
Dr. Roger Hosein

Trade and Economic Development Unit (TEDU)
Faculty of Social Sciences

Dr. Roger Hosein is a Senior Lecturer who served as mentor to Most Outstanding Graduate Researcher awardee, Dr. Jeetendra Khadan. Dr. Hosein believes that the study into bilateral trade of CARICOM countries represents an important contribution to the regional literature on trade.

Describing his mentorship style as “facilitative”, Dr. Hosein works closely with mentees to build their confidence in the areas they are weakest, while leveraging on their strengths. For him, knowing that his students are able to competently stand up to intensive and rigorous interrogation of their work is the most rewarding aspect of being a graduate supervisor.

Over the last three years, Dr. Hosein has mentored 12 MSc and five PhD students. His research interests cover Caribbean trade and development issues.
Professor Chanan Syan
Department of Mechanical and Manufacturing Engineering
Faculty of Engineering

Professor Chanan S. Syan has over three decades experience in research supervision. He acted as mentor to Dr. Randy Harnarinesingh for his research into Brain-Computer Interface (BCI) and its suitability for the control of industrial devices, specifically autonomous robotic devices. Professor Syan believes that this study is the initial and seminal work in this field that other researchers will use these new insights to develop BCI applications and systems.

Professor Syan’s approach to mentorship is researcher-needs centered, and he tailors his style as his mentee’s research competencies develop throughout the project. In addition to the reward of solving research challenges, Professor Syan finds sharing in the development and maturing of the researchers to be the most gratifying part of supervision.

His current research interests include BCI, robotics and automation, performance improvement and measurement, systems approach, and innovation and entrepreneurship. Over the past three years, he has successfully supervised four MPhil and PhD students and seven MSc students.
Professor Paula Morgan
Department of Literary, Cultural and Communication Studies
Faculty of Humanities and Education

Professor Paula Morgan served as mentor to Dr. Kwynn Johnson whose thesis applied trauma studies to pragmatic crisis intervention through visual arts. As the first practice-driven PhD to be completed under the Cultural Studies Programme, Professor Morgan has called it “ground-breaking”.

As a mentor, Professor Morgan seeks to discern the unique potential of each student and to partner with them to bring their work to fruition. This, she sees as a task of envisioning and encouragement more than one of imparting disciplinary knowledge. Professor Morgan enjoys the process of transforming her students into her peers.

Professor Morgan’s main areas of research are domestic violence, the interface of ethnic and gender relations, the construction of Caribbean masculinities, and pedagogical approaches to literary, cultural and popular discourses. Recently, her focus of research and publication has been on trauma and particularly on the contemporary manifestations of historical trauma, which undergird the origins of modern Caribbean societies. She has supervised approximately 12 students at MA, MPhil and PhD levels in the past three years.
The UWI-Trinidad and Tobago Research and Development Impact Fund

The UWI-Trinidad and Tobago Research and Development Impact Fund (RDI Fund) was established in 2012 and ratified by the UWI St. Augustine Campus Finance and General Purposes Committee. The principal purpose of the Fund is to support research projects which address pressing development needs in society with the intent to achieve recognizable and substantive impact in the short and medium term (3-5 years). A Technical Evaluation Committee, chaired by the Campus Principal and including representatives from the public and private sectors, conducts the evaluations and selection of proposals and provides oversight of the RDI Fund. The Fund’s activities are carried out by a Secretariat led by Mrs. Debra-Coryat Patton, Senior Programme Manager, Office of the Campus Principal.

The RDI Fund supports research in the following 6 thematic areas:

1. Climate Change and Environmental Issues
2. Crime, Violence and Citizen Security
3. Economic Diversification and Sector Competitiveness
4. Finance and Entrepreneurship
5. Public Health
6. Technology and Society: Enhancing Efficiency, Competitiveness and Social and Cultural wellbeing

Following the Fund’s third Call for Proposals in September 2014, 7 proposals were approved totaling just over TT$2.5 million. The following Project Team Leaders will receive their Letters of Award during the Research Awards Ceremony:
<table>
<thead>
<tr>
<th>Team Leader</th>
<th>Faculty</th>
<th>Department</th>
<th>Project Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Junior Darsan</td>
<td>Food and Agriculture</td>
<td>Geography</td>
<td>Society, turtles and environmental change in Grande Riviere Bay-towards sustainable management of a vulnerable community: an investigation into the interrelationships between terrestrial and coastal systems which impact the beach habitat of the endangered leatherback turtle.</td>
</tr>
<tr>
<td>Dr. Saravanakumar Duraisamy</td>
<td>Food and Agriculture</td>
<td>Food Production</td>
<td>Promoting Agriculturally Important Microorganisms To Address The Challenges In Food Safety And Food Security In The Caribbean</td>
</tr>
<tr>
<td>Dr Wendy-Ann Isaac</td>
<td>Food and Agriculture</td>
<td>Food Production</td>
<td>Technological Solutions for improved Agro-environment and Sustainability of Agricultural Development</td>
</tr>
<tr>
<td>Dr. Deborah Villarroel-Lamb</td>
<td>Engineering</td>
<td>Civil and Environmental Engineering</td>
<td>An Assessment of the Beach Erosion and the Coastal Flooding Hazards at selected sites along the Trinidad and Tobago coastline through correlation analyses of the short- to medium-term variations in the morphological, hydrodynamic and environmental conditions and through detailed numerical modelling.</td>
</tr>
<tr>
<td>Dr. Sameer Dhingra</td>
<td>Medical Sciences</td>
<td>School of Pharmacy</td>
<td>Pharmacovigilance Programme for Assuring Medication Safety in Trinidadian Population</td>
</tr>
<tr>
<td>Prof. Patricia Mohammed</td>
<td>Social Sciences</td>
<td>Institute for Gender and Development Studies</td>
<td>Work/Life Balance; Its Impact on the Productivity of Working Men and Women and on the Wellbeing of Ageing Populations in Trinidad</td>
</tr>
<tr>
<td>Dr Govind Seepersad</td>
<td>Food and Agriculture</td>
<td>Department of Agricultural Economics and Extension</td>
<td>Development of advanced precision agriculture techniques for crop management and risk assessment in Trinidad and Tobago</td>
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</table>
Principal’s Special Award - Outstanding Young Scholar

This Award recognizes outstanding work by an early career researcher.

Dr. Michael Forde
Department of Chemistry
Faculty of Science and Technology

Dr. Michael Forde is a Lecturer in the Department of Chemistry in the Faculty of Science and Technology and also serves as the Coordinator of the Industrial Chemistry Program. Dr. Forde received his PhD in Heterogeneous Catalysis from Cardiff University, United Kingdom in 2012. His research interests lie at the frontier of heterogeneous catalysis and materials design. It also spans selective oxidation and hydrogenation research employing precious and transition metal nanoparticles prepared by novel colloidal and vapour deposition methodologies, and supported on metal oxides, micro/mesoporous materials and novel carbon supports.

Dr. Forde’s work is focused on selective C-H bond activation in lower alkanes (methane, ethane) and catalytic transformation of “platform molecules” derived from waste agricultural and non-food biomass sources into fuels and valuable chemicals. Other areas of research include CO2 photo-activation and the development of metal-organic framework materials from porphyrin/phthalocyanine building blocks.

Dr. Forde has published 14 papers over the past three years. He has also presented at numerous conferences, regionally and internationally, and has served as a conference organizer, in conjunction with Cariscience, of the “International Symposium and Workshop on Nanotechnology” held in June 2014. Since joining The UWI, Dr. Forde has developed three new undergraduate courses which are integral to the Major/Minor in Industrial Chemistry and is currently developing a new course in Heterogeneous Catalysis and Surface Science which is to be developed and implemented in the 2016/2017 academic year.
Campus Awards

These are the four most prestigious Research Awards, which celebrate research that has not only demonstrated exceptional scholarly quality but has also been impacting, at various levels and has received significant national, regional or international recognition and support.

Faculties were asked to consider suitable applicants and submit one nomination for each of the categories. A Campus Award Selection Committee, chaired by the Campus Principal, supported by the Director of the Office of Research Development and Knowledge Transfer, the Campus Coordinator for Graduate Studies and Research, and representatives from NGC and the public sector, evaluated applications based on various criteria, inter alia, the significance of the research, the competence of the lead researcher(s), project accomplishments and outputs, and demonstrated impact.
MOST PRODUCTIVE UNIT, CENTRE OR INSTITUTE

An award for the Unit, Centre or Institute which has demonstrated the highest research productivity and research quality over the past three (3) years.

The Sir Arthur Lewis Institute of Social and Economic Studies (SALISES)

**DIRECTOR:**
Professor Patrick Watson

**ACADEMIC STAFF:** Dr. Godfrey St. Bernard, Dr. Sandra Sookram, Dr. Roy McCree, Dr. Preeya Mohan, Dr. Michelle Scobie, Ms. Indera Sagewan-Alli.

Research at the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) covers a wide range of areas including climate change and related issues like vulnerability, adaptation, management of water resources, disaster preparedness, environmental issues and ecotourism; poverty and poverty reduction; demographic issues and migration; as well as innovation, competitiveness and diversification.

Some of the most significant research in the last three years has focused on managing adaptation to change in coastal environments due to climate change. These projects sought to assess the vulnerabilities and risks of coastal communities, while building risk mitigation and adaptation strategies. They allowed for collaboration and knowledge transfer between Canada, countries of the European Union and the Caribbean.

Other important research projects examined the determinants of innovation and productivity in Trinidad and Tobago and the Caribbean. One of these studies recommended the development of a national innovation policy. These projects attracted grant funding from institutions like the Inter-American Development Bank (IDB) and the International Development Research Centre (IDRC).

Within the last three years, SALISES has published in more than 28 journals, conference proceedings and technical reports, and graduated 4 PhD and 2 MPhil students. Today 28 PhD and 9 MPhil students are registered.
MOST IMPACTING RESEARCH PROJECT

An award for the research activity that has had the most significant impact at the national level over the last three (3) years. This impact may be demonstrated through a resultant change in public sector policy, improvement to a design or process, the award of a patent, the use of the project’s output by a commercial or industrial enterprise, the solution of a problem of economic, political, social or cultural significance, and a well-recognized contribution to shaping intellectual discourse, inter alia.

“The Impact of the Contaminants Produced by the Guanapo Landfill on the Surrounding Environment” Project

TEAM LEADER: Dr. Denise Beckles
Department of Chemistry
Faculty of Science and Technology

TEAM MEMBERS: Dr. Grace-Anne Bent, Dr. Leonette Cox, Dr. Ricardo Clarke, Dr. Xsitaaz Chadee, Dr. Vincent Cooper, Dr. Kailas Banerjee, Professor E. Monica Davis, Ms. Sharda Mahabir (Water Resources Agency, Water and Sewerage Authority) , Ms. Maria Allong (Trinidad and Tobago Solid Waste Management Company Limited).

Trinidad and Tobago deals with its waste primarily through sanitary landfilling. Landfill emissions can contaminate the air, soil and water around them, but it’s not known how safely current landfills store waste. Therefore, to fill this data gap, the research team set out to assess the extent of contamination from the Guanapo Landfill, as well as to identify the potential impacts of this contamination

Led by Dr. Denise M. Beckles, Lecturer in the Department of Chemistry in the Faculty of Science and Technology, the team comprised researchers from the Faculties of Science and Technology, Engineering, and Medical Sciences, who partnered with stakeholders from the Water and Sewerage Authority (WASA) and Trinidad and Tobago Solid Waste Management Company Limited (SWMCOL). Backed by a $1 million grant from the UWI-TT RDI Fund, the team completed a full characterization and modelling exercise of the Guanapo Landfill.

The project produced a large, multi-faceted, high quality data set on the environmental quality in the Heights of Guanapo, and its recommendations led to policy changes at SWMCOL, including waste diversion strategies to limit the amount of waste entering the landfill, changing the type of waste entering, and planning for the construction and operation of a leachate treatment system as a major mechanism for the mitigation of pollution from the landfill. Using one of the two publications coming out of the project as scientific justification, SWMCOL successfully won funding for its planned leachate treatment system.

The success of the project led to an additional, spin-off funded research project, funded by GEF-SGP UNDP to look at science education in the Heights of Guanapo.
THE UNIVERSITY OF THE WEST INDIES, ST. AUGUSTINE CAMPUS
RESEARCH AWARDS CEREMONY

MOST OUTSTANDING REGIONAL RESEARCH PROJECT
An award for research that has brought significant attention to research conducted at the UWI St. Augustine Campus, and that has attracted the most funding from sources external to the University to support a specific regional research project. Additionally, the research project should demonstrate the achievement of project objectives as well as innovative and creative outputs.

“One Health, One Caribbean, One Love” Project

TEAM LEADER: Professor Christopher Oura
Department of Basic Veterinary Sciences
Faculty of Medical Sciences

TEAM MEMBERS: Dr. Adana Mahase-Gibson,
Ms. Dulcie Furlonge, Dr. Alexandra Vokaty (PAHO/WHO).

Professor Christopher Oura, Professor in the Department of Basic Veterinary Science, Faculty of Medical Sciences, with researchers across the region, sought to promote collaboration and sharing of resources between sectors (human, animals and the environment) both within and between Caribbean states in the project, “One Health, One Caribbean, One Love”.

The project, funded by the European Union (EU), aimed to overcome the inability to fully combat the ever-increasing animal, human and environmental health issues in the region by promoting a “One Health” approach to zoonotic and food borne disease surveillance, diagnosis and response.

Partnered with key international organizations across the Caribbean region, including PAHO/WHO, FAO and the Inter-American Institute for Cooperation on Agriculture (IICA), as well as various Ministries of Agriculture, the participating countries include: Antigua & Barbuda, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname & Trinidad & Tobago

A regional Caribbean “One Health” network and national working groups were established, comprising of “One Health Leaders” made up of medical, veterinary and environmental officials. This resulted in improved diagnostic capacity and capability of veterinary diagnostic laboratories across the Caribbean region.

The project, which attracted US$ 1.6 million in funding, is a start to greater regional cooperation and knowledge sharing.
MOST OUTSTANDING INTERNATIONAL RESEARCH PROJECT

An award for research that has brought the most international attention to research conducted at the UWI St. Augustine Campus, and has attracted the most international funding to support a specific research project. Additionally, the research project should demonstrate the achievement of project objectives as well as innovative and creative outputs.

“Biology and behaviour of male mosquitoes in relation to new approaches to control disease transmitting mosquitoes” Project

TEAM LEADER:
Professor Dave Chadee
Department of Life Sciences
Faculty of Science and Technology

INTERNATIONAL CO-LEADS: Dr. Rosemary Lees and Dr. Jeremie Gilles (International Atomic Energy Agency)

Professor Dave Chadee from the Department of Life Sciences in the Faculty of Science and Technology co-led a team of researchers from 16 countries in Africa, Asia, the Americas and Europe which studied the pre-mating conditions and mating systems of a range of mosquito species, and investigated the contribution of molecular and chemical approaches to increase the understanding of males mating behaviour.

With no vaccination treatment available to treat dengue, chikungunya and zika fever, controlling outbreaks has meant suppressing the mosquito vectors with insecticides sprayed in residences or applied to bed nets, and in the case of dengue vectors, reducing larval breeding sites. These methods, however, are undermined by insecticide resistance and the difficulty of maintaining long-term community-wide efforts. The sterile insect technique (SIT), whose success hinges on having a good understanding of the biology and behaviour of the male mosquito, is an additional weapon in the limited arsenal against mosquito vectors.

The results of the research was published in a monograph, and described aspects of the biology of mosquitos – many for the first time. The monograph is the blueprint for present and future SIT programs and was the most downloaded document in Science Direct for the period 2014 – 2015.

The project, for which UWI earned US $51,000 from two International Atomic Energy Agency grants, has helped position the University as a leader in this field of research, advising countries like Brazil, China, Sri Lanka, and Malaysia on their vector control programmes, and attracting foreign students to UWI’s graduate programme. It has also been instrumental in the development of UWI’s Zika task force.
ACKNOWLEDGEMENTS

The Pro Vice-Chancellor and Campus Principal, Professor Clement Sankat, wishes to thank the following individuals and entities, which were instrumental in making the Research Awards Ceremony 2016 a success:

- The Government of the Republic of Trinidad and Tobago
- Ministry of Education
- National Gas Company of Trinidad and Tobago Limited
- The Campus Awards Selection Committee
- The Technical Evaluation Committee of the UWI-Trinidad and Tobago Research and Development Impact Fund (RDI Fund)
- Staff members from the Office of the Dean from all seven Faculties, University Office of Research, Office for Graduate Studies and Research, Office of Research Development and Knowledge Transfer, Marketing and Communications Department, Division of Facilities Management, Campus I.T. Services, Department for Creative and Festival Arts.
The UWI-NGC Research Awards Ceremony showcases and celebrates the research conducted by staff and students of The UWI St Augustine Campus. It is intended to promote a culture of scholarship, innovation and research mentorship as we build on our tradition of knowledge creation and mobilization in the service of national and regional development.

Thank you for sharing this momentous occasion with us and for your steadfast support for the continued success of The UWI St. Augustine Campus.