



## **The Caribbean Academy of Sciences**

in collaboration with the Caribbean Academy of Sciences, Jamaica and  
The University of the West Indies, Mona,  
as part of The UWI's 70th anniversary  
and CAS' 30<sup>th</sup> anniversary celebrations.

**21st General Meeting and Conference  
Mona Visitors' Lodge and Conference Centre,  
Kingston, Jamaica  
27-30 November 2018**

**“Science, Technology and Innovation:  
Vehicles for a  
Knowledge Based Economy”**

**Presentations in all areas  
of medical, natural or social sciences.**





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The University of the West Indies, Mona, as part of  
The UWI's 70<sup>th</sup> Anniversary and  
CAS' 30<sup>th</sup> Anniversary Celebrations

*9AM - 10:30 AM Tuesday, 27 November 2018*

*Mona Visitors' Lodge and Conference Centre, The UWI, Mona Campus*

## Opening Ceremony

### 21<sup>st</sup> General Meeting and Conference

***"Science, Technology and Innovation: Vehicles for a Knowledge Based Economy"***

**Master of Ceremonies: Craig A. Perue**

#### Welcome

Prof. Emeritus Tara Dasgupta, CD  
President, Caribbean Academy of Sciences, Jamaica

#### Remarks

Prof. Emeritus Winston Mellowes  
President, Caribbean Academy of Sciences

#### Greetings

Prof. the Most Hon. Denise Eldemire-Shearer, CD, OJ  
Representing the Vice Chancellor, Prof. Sir Hillary Beckles  
The UWI

#### Greetings

Prof. Dale Webber, CD  
Pro Vice-Chancellor and Principal, The UWI, Mona

#### Greetings

Ms. Katherine Grigsby  
Director, UNESCO Cluster Office for the Caribbean

#### Keynote Address

Senator The Honourable Ruel Reid, CD  
Minister of Education, Youth and Information

#### Vote of Thanks

## Refreshments



New Fortress  
ENERGY





Time	Activity
8:00-9:00am	Registration
9:00 -10:30am	Opening ceremony, Gold Room Keynote speaker: Senator The Honourable Ruel Reid, CD
10:30- 11:00am	Coffee Break
11:00 -12:00am	Plenary 1, Gold Room Prof. John Hildebrand, FNAS Rethinking STEM Higher Education in the 21st Century Session Chair: Prof. Emer. Winston Mellowes SPONSOR: THE UWI
12:00- 1:00pm	Lunch
1.00-2:00pm	Plenary 2, Gold Room Prof. Daniel Burgos Is Transgenic Learning a Radical Boost for Innovative Education? Session Chair: Dr. Aldrin Sweeney
1:00-2.30 pm	Special lecture to high school students Professor Richard Catlow Molecules and Materials
2:00 - 4:00pm	(CAS meeting- VENUE SCR Conference Room)

## GOLD ROOM 1

**Theme 1: Innovation In Food Technology, Agriculture,  
Agroprocessing for Sustainable Development**

**Session Chair: Dr Dwight Robinson**

2.00-2.20pm	CAS-023: An Assessment of Host-plant Preference of <i>Aphis gossypii</i> in Jamaica <u>Desireina D.S. Delancy</u> , Tannice A. Hall and Eric Garraway
2.20-2.40pm	CAS-026: Evaluation of UV-absorbing Film for Management of Western Flower Thrips under Protected Cultivated in Jamaica <u>St. Sanya G.L. Morrison</u> , Camille C. Marks Kelly, Michelle Sherwood, Michael Pryce and Sheldon Elliott
2.40-3.00pm	CAS-027: Evaluation of New Irish Potato ( <i>Solanum tuberosum</i> L.) Varieties for High Yield Potential, Late Blight Tolerance and Market Suitability in Jamaica <u>Michelle A. Sherwood</u> , Michael Pryce, Lisa R. Myers Morgan, Carla Douglas, Alexi Reid, Patrice Pitter, and Christopher A. Haughton
3.00-3.20pm	CAS-032: A Newly Modified QuEChERS Method for the Analysis of Pesticide Residues in Select Fruit and Vegetable Matrices in Trinidad and Tobago. <u>Winnette A. Collimore</u> , and Grace-Anne E. Bent
3.20-3.40pm	CAS-050: Chemical Structure Investigation of Nutmeg ( <i>Myristica Fragrans</i> ) Shells and its Derived Carbon Sorbents and the Process Conditions for Producing Such Sorbents Crispin R. Andrews, Reginald Pantin, Ronald Ranguin, Christelle Yacou, <u>Jeffrey V. Smith</u> , and Sarra Gaspard
3.40-4.00pm	TWAS Young Scientist Awardee Presentation The Global and Local Impact of Road Traffic Injuries. Is it an Epidemic? <u>Dr Shuvra Dasgupta</u>



## GOLD ROOM 2

### Theme 2: Novel Materials, Catalysts, Fundamental and Applied Sciences

*Session Chair: Dr. Nicolas McMorris.*

2.00-2.20pm	CAS-044: Catalytic Conversion of Carbon Dioxide to Methanol and Chemical Hydrogen Storage <u>Kareem Abdur-Rashid</u> , Wenli Jia and Kamaluddin Abdur-Rashid
2.20-2.40pm	CAS-014: Temperature Effect on the Cracking Healing Potential of Asphalt Concrete Mixes Lee P. Leon, <u>Rico Nurse</u> , and Shannon Noel
2.40-3.00pm	CAS-019: Potential Use of Tropical Landfill Leachate in Manufacturing Portland Cement Concrete <u>Samantha Jagmohan</u> ; Abrahams Mwasha; Winston Mellowes
3.00-3.20pm	CAS-030: Mild Steel Corrosion Inhibition in Acidic Medium by Theobroma Cacao Pod Extracts <u>Annacia K. Jeffers</u> and Ann M. Wilson
3.20-3.40pm	CAS-60: Temperature Effects on the Relative Stability of Ultra-High-Pressure Phases of Oxygen <u>Beatriz H. Cogollo-Olivo</u> ; Sandro Scandolo, Sananda Biswas, and Javier A. Montoya
3.40-4.00pm	CAS-055: Assessing the Potential Impacts of Increasing Temperatures on Asphalt Binder Performance <u>Lee P. Leon</u> and Kellesia Williams-Gittens

## BLUE ROOM1

### Theme 3: Computer Science, Modeling, Information Technology, Engineering.

*Session Chair: Dr Gunjan Mansingh*

2.00-2.20pm	CAS-119: The Importance of a National Approach to Cyber Security in a Knowledge-based Economy <u>Sandra Khan</u> and Malcolm Williams
2.20-2.40pm	CAS-111: Unlearning Learned Helplessness: A Computerised Cognitive Behavioural Therapy Approach <u>Juanelle Marks</u> , Malcolm Williams, and Aurell Liddell
2.40-3.00pm	CAS-120: Using a Web-based Student Response System to Promote Active Learning in a Classroom Setting <u>Vineeta Persaud</u> and Rita Persaud
3.00-3.20pm	CAS-110: VisC - A Visualisation Tool for Learning Fundamental Programming Concepts <u>Dave U. Sarran</u> and Lenandlar Singh
3.20-3.40pm	CAS-112: Promoting Computer Science Education in a Developing Country: Experiences from 'Code Camp Guyana' Juanelle Marks and <u>Lenandlar Singh</u>
3.40-4.00pm	CAS-045: The Effects of Wall Thickness and Raster Resolution on the Diametric Accuracy, Cylindricity, and Concentricity of Fused Deposition Modelled Sacrificial Patterns <u>Winston Sealy</u>



## BLUE ROOM2

### Theme 4: Science for Sustainable Development.

*Session Chair: Prof Ronald Young*

2.00-2.20pm	CAS-007: Lightsources for Africa, the Americas, Asia and Middle East Project (LAAAMP): An IUPAP and IUCr ICSU-Funded Project <u>Sekazi K. Mtingwa</u>
2.20-2.40pm	CAS-006: Can Caribbean Countries Ignore Scientific and Technological Knowledge and Still Prosper? <u>Arnoldo K. Ventura</u> and Sandra M. E. Wint
2.40-3.00pm	CAS-001 The Central Challenge for Caribbean Scientists, Engineers, Technologists and Economic Planners <u>Winston H.E. Suite</u>
3.00-3.20pm	CAS-033: A Systems-oriented Vulnerability Approach to Flooding in Cave, Westmoreland, Jamaica <u>Tracy-Ann .N. Hyman</u>
3.20-3.40pm	CAS-117: The Perception of Electronics Waste Management and Disposal Practices in Guyana <u>Penelope G. DeFreitas</u>
3.40-4.00pm	CAS-094: Anaerobic Microbial Degradation of Chlordecone in Microcosms from Guadeloupe Soil <u>Suly Rambinaising</u> , Laurent Laquitaine, Ronald Ranguin, Corine Jean-Marius, Line Lomheim, Andrei Starostine, Luz A. Puentes, Elizabeth A. Edwards, and Sarra Gaspard

## POSTER SESSION AND RECEPTION

**27th November 2018, 5:00 PM—8:30 PM**

***Moderator: Dr Kerrie-Anne Wilson***

**SPONSOR JAM LAB**

**CAS-004:** SEM/EDAX Studies on Consolidated Volcanic Soils and Crystalline Rocks Indicating the Strong Presence of Rare Earth and Rare Elements in the Caribbean Island of Grenada

- Ramsey Saunders, Leon Radix, and David Hinds

**CAS-011:** Geoheritage and the Conservation of Natural Geological Sites of Interest in Guadeloupe, French West Indies

- Yves Mazabraud

**CAS-021:** Activated Charcoal Promotes Surgical Wound Healing Effects of *Musa sapientum* and *Citrus Limon* Peel Gel in *Rattus novergicus*

- James Omale

**CAS-024:** The Efficacy of Sulphur/Insecticide Treatments for *Franlinella Occidentallis* (Western Flower Thrips) under Protected Cultivated in Jamaica

- St. Sanya G.L. Morrison, Camille C. Marks Kelly, Michelle A. Sherwood, Michael Pryce and Sheldon Elliott

**CAS-025:** Evaluation of Isomate- Baw Mating Disruption Technology for the Management of Beet Armyworm (*Spodoptera Exigua*) in Scallion/Welsh Onion (*Allium Fistulosum*) in Todd Town, St. Elizabeth Jamaica

- Michelle A. Sherwood, Marina Young, Francine Webb-Lawrence, and Michael Pryce

**CAS-028:** The Efficacy of Baculovirus Bio-Pesticides in the Management of Beet Armyworm, *Spodoptera Exigua* (Hübner) in Scallion, *Allium Fistulosum* L. in Jamaica

- Christopher A. Houghton, Michelle A. Sherwood, Francine Webb-Lawrence, and Dwayne Henry

**CAS-036:** Effect of 150kHz Electromagnetic Radiation on Polycystic Ovary Development (Rat Model)

Stephanie Mohammed, Nikolay Zyzuikov, Shivananda Nayak, and Venkatesan Sundaram

**CAS-037:** Design of a Practical, Cost-effective Real-time Surveillance System for Leptospirosis in Trinidad and Tobago

- Lisa A. Benjamin



- CAS-039:** Theoretical Study of the Interaction of Two Chloride Pesticides with Superficial Amines of Activated Carbon  
-Kenia Melchor-Rodríguez, Chayan Carmenate-Rodríguez, Juan J. Gamboa-Carballo, Nady Passe-Coutrin, Sarra Gaspard and Ulises. J. Jáuregui-Haza
- **CAS-041:** Using Gamma Radiation for Degradation of Diazepam, Midazolam and Flumazenil in Wastewaters  
- Michel Manduca-Artiles, Susana Gómez-González, Claudia Marchan-Moreno, María González-Marín, Sarra Gaspard, and Ulises Jáuregui-Haza
- **CAS-048:** Characterisation of Trace Elements and Organic Compounds in Kingston, Jamaica  
Dwight Messam, Novelette Sadler Mcknight, Michael Coley and Johan Boman
- **CAS-052:** Pincer Ligands Based on Pyridylcarbo(thio)amides Backbones as Effective Ancillary Ligands in Electro- and Homogeneous-catalysis  
- Mark A.W. Lawrence
- **CAS-057:** Morphology of Third Instar Larvae of Three Species of Flies (Family: Sarcophagidae) of Potential Forensic Importance in Jamaica  
- Rochelle S.H. Daley, Eric Garraway, and Catherine Murphy
- **CAS-065:** Muscadine Grape Skin Extract Decreases Proliferation of Prostate Cancer Cells by Affecting Proteins Involved with the Cell Cycle and the Androgen Receptor  
Diane N. Ignacio, Trevor Alleyne, Tamaro S. Hudson, and Sonia Peter
- **CAS-066:** Components of a Leaf Extract of an Exotic Caribbean Plant Inhibits Growth of PC-3 Androgen Independent Prostate Cancer Cells  
- Dunstan Arrindell, Shantelle Henry, Diane N. Ignacio, Sonia Peter and Trevor Alleyne
- **CAS-067:** Carbon Storage Change as It Relates to Land Use and Texture in a Tropical Forest Ecosystem  
Melissa A. Atwell, Mark N. Wuddivira, and Mike P. Oatham
- **CAS-068:** Guyana-Suriname Energy Resources  
- Sally Radford
- **CAS-076:** Automated Pollen Recognition Using Shape, Texture Features and Logisboost Algorithm  
- Endrick Barnacin, Jean Luc Henry, Jack Moliné, Benoît Foucan-pérafide and Jimmy Nagau
- **CAS-080:** Free Radical Scavenging Activity, Total Phenolics and Metabolites Identified in *Rivina Humilis* Berries  
- Andrea Goldson Barnaby, Kailesha Duffus, Hensleisha Virgo, and Raymond Reid
- **CAS-081:** Producing Valuable Protein Concentrates from the Cassava Crop's Post Harvest Waste Products  
- Annaleise H.L. Aiken, Ian L. Thompson, Diptendu Chatterjee, and G. Harvey Anderson
- **CAS-084:** Coffee Crop Phenology and Infestation by the Coffee Berry Borer, *Hypothenemus hampei* (Ferrari) (Coleoptera: Curculionidae) in the Highlands and Blue Mountains of Jamaica  
-Ameka N. Myrie and Dwight E. Robinson
- **CAS-090:** Synthesis, Characterisation, Luminescence and Sensing Capabilities of a New 2-Hydroxyterephthalate Lanthanide MOF  
- Christopher Hossack, Zeyar Min, and Marvadeen Singh-Wilmot
- **CAS-093:** A Mechanised Cocoa Dryer Chamber  
- Robert A. Birch, Rodney Seepersad, Renique Murray, Cilla Pemberton, and Edwin I. Ekwue
- **CAS-100:** Africanized Bees - The Bees of the Future  
- Jo-Anne N. Sewlal, Ricardo G. D'Andrade, Hayden A. Sinanan, and Gordon P. Deane
- **CAS-101:** Food Fraud - Honey Laundering  
- Jo-Anne N. Sewlal, Ricardo G. D'Andrade; Hayden A. Sinanan, and Gordon P. Deane
- **CAS-108:** Integrated Health Information Systems for Diabetics in Guyana  
- Alicia Layne, Malcolm Williams, and Roland Daynauth

6.30:- 8:30pm	Reception
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## Wednesday, November 28, 2018

8:00-9:00am	Registration
9:00-10:00am	<b>Plenary 3, Gold Room</b> <b>Prof. Richard Catlow, FRS</b> <b>Materials for Renewable Energy Technologies.</b> <b>Session Chair: Prof Emer. Robert Lancashire</b> <b>SPONSOR: NEW FORTRESS ENERGY</b>
10:00-10.30am	Coffee Break

### GOLD ROOM1

#### Theme 1: Innovation In Food Technology, Agriculture, Agroprocessing for Sustainable Development

*Session Chair: Dr D Minott-Kates*

10.30-10.50am	CAS-054: Residual Levels of Furan in Some Caribbean Foods Using Headspace Gas Chromatograph Mass Spectrometer (HS/GC-MS) <u>Samantha R. Brown-Dewar</u> , Tara P. Dasgupta and Paul T. Maragh
10.50-11.10am	CAS-064: Rapid Propagation of Improved Cassava Varieties Using the Multiple Shoot Removal Technique <u>Fradian V.N. Murray</u> , Jane E. Cohen and L. Myers-Morgan
11.10-11.30am	CAS-071: Essential Oil Composition and Antimicrobial Activity of Cannabis Sativa Grown in Jamaica at Five Stages of Maturity. <u>Kellyann Clarke</u> , Roy Porter, Petrea Facey and Camille Thoms-Rodriguez
11.30-11.50am	CAS-089: A Portable Modular Mechanised System for In-field Transporting of Harvested Cocoa <u>Daniel Hosein</u> , Robert A. Birch, Renique Murray and Cilla Pemberton
11.50-12.10am	CAS-082: The Design and Fabrication of a Function Fertiliser <u>Robert A. Birch</u> , Stefan Thompson and Gaius Eudoxie
12.10-12.30am	CAS-040: Depollution of Waters Contaminated with Chlordane and $\beta$ -hexachlorocyclohexane by Their Precipitation with Cyclodextrins Juan J. Gamboa-Carballo, A. Ferino-Pérez, Vijay K. Rana, Kenia Melchor-Rodríguez, Ronald Ranguin, Joëlle Levallois-Grützmacher, <u>Sarra Gaspard</u> , and Ulises. J. Jáuregui-Haza

### GOLD ROOM 2

#### Theme 2: Novel Materials, Catalysts, Fundamental and Applied Sciences.

*Session Chair: Dr Mark Lawrence*

10.30-10.50am	CAS-049: The Fatigue Resistance of RAP in Asphalt Concrete Mixes Using Two Different Binders <u>Lee P. Leon</u> , Trevor Townsend; and Dale Diaz
10.50-11.10am	CAS-038: Chiral Transition Metal Diphosphine Complexes and Their Applications in Asymmetric Catalysis <u>Shannen C. Lorraine</u> , Paul T. Maragh, Tara P. Dasgupta, Kamaluddin Abdur-Rashid
11.10-11.30am	CAS-005: A Story of the Accidental Formation of Novel Titanium(IV) Schiff Base Salen Complexes <u>Alvin A. Holder</u> , Raj K. Gurung, William L. Jarrett and Colin McMillen
11.30-11.50am	CAS-046: Removal of 2-Nitrophenol, 2, 4-Dinitrophenol and 2, 4, 6-Trinitrophenol from Aqueous Solution Through Adsorption on Cobalt, Nickel and Tungsten Ferrocyanides Tricia Grant and <u>Brij B. Tewari</u>
11.50-12.10am	CAS-047: Chiral Ruthenium Aminophosphine and Phosphine Iminopyridine Complexes for Asymmetric Catalytic Transformations <u>Littlelet N. Scarlet-Banks</u> , Kamaluddin Abdur-Rashid, Paul T. Maragh, and Tara Dasgupta
12.10-12.30am	CAS-034: Transition-Metal Catalysis for the Production of Active Pharmaceutical Ingredients <u>Kadane O. Morris</u> , Paul T. Maragh, Tara P. Dasgupta and Kamaluddin Abdur-Rashid



## BLUE ROOM1

### Theme 3: Computer Science, Modeling, Information Technology, Engineering.

*Session Chair: Prof W Suite*

10.30-10.50am	CAS-031: An Environmentally Friendly Solution to Realising ICT Sector Growth in Developing Countries <u>Brandon O. Campbell</u> ; Kaycilee S. Wright; Louis-Ray O. Harris
10.50-1.10am	CAS-020: How Returns differ by Field of Study in Trinidad and Tobago? <u>Roshnie Doon</u>
11.10-1.30am	CAS-061: Solving Stochastic Multi-Objective Economic Dispatch Problems Incorporating CHP and Wind Power Units Using SDP Technique <u>Kolapo Sulaimon Alli</u> , Abimbola Muideen Jubril, and Lawrence O. Kehinde
11.30-1.50am	CAS-075: Bivariate Distributions with Transmuted Conditionals: Models and Applications <u>A. Vincent Raja</u>
11.50-2.10am	CAS-010: Solving Multi-Objective Economic Dispatch Problems Incorporating Wind Units Using a Semidefinite Programming Approach <u>Kolapo Sulaimon Alli</u> ; Abimbola Muideen Jubril and Lawrence O. Kehinde
12.10-2.30am	CAS-118: First Time Experiences of Females Programming at the Grade 6 to 9 Level <u>Penelope G. DeFreitas</u> ; Alicia Layne

## BLUE ROOM2

### Theme 4: Science for Sustainable Development.

*Session Chair: Dr Mark Richards*

10.30-0.50am	CAS-018: Anatomy and Histology of the Digestive Tract of the Cocrico ( <i>Oratalis ruficauda</i> ) <u>Venkatesan Sundaram</u> ; Chantal Perryman; Kern Johnson; Avinash Lodie; Clive Folkes; and Andrew A. Adogwa
10.50-1.10am	CAS-036: Effect of 150kHz Electromagnetic Radiation on Polycystic Ovary Development (Rat Model) <u>Stephanie Mohammed</u> , <u>Nikolay Zyzuikov</u> , <u>Shivananda Nayak</u> , and <u>Venkatesan Sundaram</u>
11.10-1.30am	CAS-059: Assessment of Temporal Rainfall Distribution in Trinidad and Tobago Using the Annual and Seasonal Precipitation Concentration Indices <u>Reynold J. Stone</u>
11.30-1.50am	CAS-083: Focusing on Interactions between Individuals and Their Learning Environment: A New Step Forward for Science Education <u>Alexandra Renouard</u> , and Yves Mazabraud
11.50-2.10am	CAS-105: The Status of Surface Water in Linden and Coastal Guyana <u>Raymond C. Jagessar</u> , and R. Lakhan
12.10-2.30am	CAS-069: Students' Conceptions about Geothermal Energy in the Caribbean <u>Claire Anjou</u> , Thomas Forissier and Yves Mazabraud

12:30 -1:30pm	Lunch
1.30-2.30pm	<b>Plenary 4, Gold Room</b> <b>Prof. Paras Prasad</b> <b>Convergence of Science: Linking Nanotechnology and Photonics with Chemistry and Biology, to Impact Energy, Health care and Economic Development.</b> <i>Session Chair: Prof. Emer. Tara Dasgupta</i> <b>SPONSOR: NEW FORTRESS ENERGY</b>
2.30-3.00pm	Coffee Break
3:00-4.00pm	<b>Plenary 5, Gold Room</b> <b>Dr Kamaluddin Abdur-Rashid</b> <b>New approaches for the manufacture of pharmaceutical products.</b> <i>Session Chair: Prof. Helen Jacobs</i>
4:00-6:30 pm	<b>Panel Discussion, Gold Room</b> <b>Cracking the Code to Gender Disparities in Creating a Knowledge Based Economy: Increasing Female Participation in STEM</b>
7:00 - 9:00 PM	<b>Public lecture, Blue Room</b> <b>Dr Douglas McMartin</b> <b>Achieving 1.5° Celsius: Is there a role for Geoengineering?</b>



**Gender Disparity Forum**  
**Wednesday 28th November 2018**  
**4:00 PM to 6:30 PM**

***Cracking the Code to Gender Disparities in  
Creating a Knowledge Based Economy:  
Increasing Female Participation in STEM.***

**Welcome and Opening Remarks**

**Ms. Petal Punalall Jetoo**

Consultant, Natural Sciences  
UNESCO Cluster Office for the Caribbean

**Greetings**

**Dr. Leith Dunn**

Head of the Institute for Gender and Development Studies Unit,  
The UWI, Mona

**Presentations by Speakers**

Ms Gisselle Burbano /Ms Giuliana Neumann

*UNESCO's work in Achieving Gender Equality*

Dr. Lilliam Margarita Alvarez Díaz

*Women in the Academies of Sciences in the world,  
still in disadvantage. "More Women, better science"*

Dr. K. Renee Horton

*STEM disparity and the need for female inclusion*

Ms Zelmira May

To be delivered by UNESCO office

Dr Aisha Jones

*Implementation of the UNESCO SAGA project: The Jamaica Experience*

Dr. Elizabeth Rincón Santana

*Participation of Women in Mathematics at the  
Autonomous University of Santo Domingo*

Ms. Elena Trim

*Female participation and opportunities in Engineering*

**Audience Participation**

**Closing Remarks: Ms. Petal Punalall Jetoo**



Thursday, 29<sup>th</sup> November, 2018

8:00- 9.00am	Registration
9.00-10.00am	<b>Plenary 6, Gold Room</b> Dr. David McBean Technology & Science - The Promise of An Easier Life <i>Session Chair: Dr. Indianna Minto-Coy</i>
10:00-10.30am	Coffee Break

## GOLD ROOM 1

**Theme 1: Innovation In Food Technology, Agriculture, Agroprocessing for Sustainable Development**

*Session Chair: Dr Lisa Lindo*

10.30-10.50am	CAS-107: Tribological Properties of Vegetable Oils Added with Graphite Particles in Dodecane <u>Nadiege Nomedo-Martyr</u> , Jacques-Louis Ricard, Rachel Rossi, Philippe Bilas, Thierry Cesaire, and Philippe Thomas
10.50-11.10am	CAS-096: Investigating Fracture and Crack Propagation in Soils Using MATLAB: A Novel Technique <u>Robert A. Birch</u> ; Jacqueline Bridge; and Edwin I. Ekwue
11.10-11.30am	CAS-097: The Potential Chemo-preventive Value of a Prenylated Flavonoid Isolate of Jackfruit <u>Isaac J. Morrison</u> , JeAnn E. Murray, Roy Porter, and Rupika Delgoda
11.30-11.50am	CAS-098: Integrated Production of Biodiesel and Purified Glycerol from Waste Cooking Oil <u>Michael D. Coley</u> , Denise D. Campbell, and Dale R. Rankine
11.50-12.10am	CAS-104: The Fermentation of the Pulp of Watermelon ( <i>Citullus lanatus</i> ) in the Absence and Presence of Metal Additives with a View to Obtain Ethanol for Commercial Use <u>Raymond C. Jagessar</u> , and J. Lynch

## GOLD ROOM 2

**Theme 2: Novel Materials, Catalysts, Fundamental and Applied Sciences.**

*Session Chair: Dr Paul Maragh*

10.30-10.50am	CAS-106: Synthesis of Nanoparticle of Carbon <u>Thierry Cesaire</u> , Gabriel Carbonnel, Yves Bercion, Audrey Molza and Philippe Thomas
10.50-11.10am	CAS-086: New Rare-Earth Metal-Organic Frameworks from Perhalogenated Terephthalate Ligands: Fluorescence Sensors for Iron, Copper and Nitroaromatic Explosives <u>Jermaine A. Smith</u> , Marvadeen A. Singh-Wilmot, Korey P. Carter, and Christopher L. Cahill
11.10-11.30am	CAS-022: Mechanistic Aspects of the Aerobic Copper-catalyzed Decarboxylative Thiolation of Benzoic Acids <u>Kerry-Ann Green</u> and Jessica M. Hoover
11.30-11.50am	CAS-088: Crystal Engineering of Lanthanide Metal-Organic Frameworks (Ln-MOFs) Using Conceptual Tertiary Building Units (TBUs) <u>Zeyar Min</u> , Marvadeen Singh-Wilmot, and Richard Taylor
11.50-12.10am	CAS-079: Making It Drier: How Pinus Caribaea Influence the Hydrology in Forested Tropical Watersheds Jesse R. Francis, <u>Kegan Farrick</u> , and Mark N. Wuddivira
12.10-12.30am	CAS-012: 30 Years of JCAMP-DX Formats and Still Going Strong Antony N. Davies and Robert J. Lancashire



## BLUE ROOM1

### Theme 3:

#### Computer Science, Modeling, Information Technology, Engineering.

##### Session Chair: Mr Lenandlar Singh

10.30-10.50am	CAS-095: Engineering Programmes and Economic Development in the SIDS of the Caribbean and South Pacific <u>Cilla Pemberton</u> , John Pumwa, Rajeshkannan Ananthanarayanan, and Oneil Josephs
10.50-11.10am	CAS-102: MHealth Disease Surveillance and Monitoring Among the Jamaican Diabetic Community: A Cross-sectional Study of the Interest to Use Health Mobile Apps <u>Susan A. Muir</u>
11.10-11.30am	CAS-114: A Model to Support the Development of Undergraduate Research in Computer Science <u>Lenandlar Singh</u>
11.30-11.50am	CAS-116: Advancing Undergraduate Research in the Disciplines: Insight and Ideas from the University of Guyana <u>Pamela Rose</u> ; Troy Thomas; and Lenandlar Singh
11.50-12.10am	CAS-115: An Exploration of Users' Perspectives on Software Updating Message Design <u>Neil Balram</u> , Aurel Liddell, and Lenandlar Singh
12.10-12.30am	CAS-113: The Use of Keystroke Dynamics as the Primary Basis of Authentication <u>Kwesi Elliot</u> , Dave Saran, Lenandlar Singh, and Troy Thomas

## BLUE ROOM2

### Theme 4: Science for Sustainable Development

##### Session Chair: Dr David Smith.

10.30-10.50am	CAS-053: Advancing the Caribbean Energy Landscape – A Comprehensive Review of Electric Vehicles and Storage Systems <u>Masaō I. Ashtine</u> , Randy Koon Koon, Delando Grant
10.50-11.10am	CAS-042: A Cost-effective Virtual Reality Headset for Immersive Interactive Learning in Developing Nations <u>Kaycilee S. Wright</u> , Brandon O. Campbell and Louis-Ray O. Harris
11.10-11.30am	CAS-070: Underpinning Intercultural Competence within a Context-Effect Didactic Method <u>Lamprini Chartofylaka</u> and Thomas Forissier
11.30-11.50am	CAS-051: PM <sub>2.5</sub> and Gaseous Pollution at an Industrial Site in Kingston, Jamaica <u>Johan Boman</u> , Willard Pinnock, Samuel M. Gaita, Novelette McKnight, and Carlos Mingo

12:30-1:30pm	Lunch
1:30 - 2.30pm	<b>Plenary 7, Gold Room</b> <b>Prof. Jamboor Viswanatha: Mentorship and Networking for Scientific Advancement and a Diverse Research Workforce</b> <b>Session Chair: Prof. Alvin Holder</b>
2.30- 3:00	Coffee break
3.00-4:00pm	<b>Plenary 8, Gold Room</b> <b>Dr. Douglas MacMartin: Geoengineering and Climate Change</b> <b>Session Chair: Dr Tannecia Stephenson</b> <b>SPONSOR: CONRAD DOUGLAS AND ASSOCIATES, ESTECH</b>
7:00-9.00pm	<b>30<sup>th</sup> Anniversary Dinner, Gold Room</b>



## FRIDAY 30<sup>TH</sup> NOVEMBER, 2018

8:00-9.00am	Registration
9.00-10.00am	<p style="text-align: center;"><b>Plenary 9, Gold Room</b>  <b>Dr. Parris Lyew-Ayee</b>  <b>Data-Driven Decision Making:</b>  <b>Practical Observations from the Public and Private Sectors in Jamaica</b>  <i>Session Chair: Ms. Caroline Mahfood</i>  <b>SPONSOR: STERLING ASSET MANAGEMENT</b></p>
10.00-10:30am	Coffee Break
10.30-11.30am	<p style="text-align: center;"><b>Plenary 10, Gold Room</b>  <b>Prof. Melvin Pascall</b>  <b>Innovations in the Food and Agriculture</b>  <b>Industry with an Emphasis on Packaging</b>  <i>Session Chair: Dr Donna Minott-Kates</i>  <b>SPONSOR: GRACE KENNEDY</b></p>

### GOLD ROOM 1

#### Theme 1: Innovation In Food Technology, Agriculture, Agroprocessing for Sustainable Development

*Session Chair: Dr Jo-Anne Sewlal*

11.30-11.50am	CAS-056: Effect of Sample Mass on Particle Size Distribution in Predominantly Medium to Heavy Textured Tropical Soils <u>Mark N. Wuddivira</u> , De Shorn E. Bramble, Gregory A. Gouveia and Ananda Ramlochan
11.50-12.10pm	CAS-015: Multi-stage Extraction and Purification of Waste <i>Sargassum Natans</i> to Produce Sodium Alginate: An Optimisation Approach <u>Akeem Mohammed</u> , Rakesh Bissoon, Elisheba Bajnath, Kristy Mohammed, Thérèse Lee, Meera Bissram, Nigel John, Nigel. K Jalsa, Koon Yang-lee, and Keeran Ward
12.10-12.30pm	CAS-074: Comparative Extraction Performance and Application of Sodium Alginate from <i>Sargassum</i> Seaweed Tiffany S. Husbands, and <u>Srinivasa R. Popuri</u>
12.30-12.50pm	CAS-016: Fabrication of Calcium Alginate Thin Films from <i>Sargassum Natans</i> for the Adsorption of Heavy Metal Ions from Waste Water <u>Chantal Mohammed</u> ; Shivanie Mahabir; Kristy Mohammed; Nigel John; Koon Yang-lee; Keeran Ward
12.50-1.10pm	CAS-072: Duration of Life Cycle Stages of Four Species of Blowflies ( <i>Diptera: Calliphoridae</i> ) <u>Taneisha A. Barrett</u> , Eric Garraway, Catherine Murphy, and Tannice Hall

### GOLD ROOM 2

#### Theme 2:

#### Novel Materials, Catalysts, Fundamental and Applied Sciences.

*Session Chair: Dr Kerry-Ann Green*

11.30-11.50am	CAS-087: Applications of the Lagrangian Method to Heun Function Davide Batic, <u>Omar A. Forrest</u> and Marek Nowakowskic
11.50-12.10pm	CAS-077: Dispersion of a Solute in Casson Fluid Flow under the Influence of External Body Acceleration <u>Ajani Ausaru</u> and Nagarani Ponakala
12.10-12.30pm	CAS-085: Response Analysis of Fuzzy Fractionally Damped Mechanical Spring-Mass <u>Diptiranjana Behera</u>
12.30-12.50pm	CAS-062: Peristaltic Transport of an Ellis Fluid in an Inclined Channel <u>Andre Small</u> , M. Narahari and Nagarani Ponakala



## BLUE ROOM1

### Theme 3: Computer Science, Modeling, Information Technology, Engineering.

*Session Chair: Prof Daniel Coore*

11.30-11.50am	CAS-009: Building Local Skills to Compete in a Global Economy: The Use of a Formal Apprenticeship Programme in the Bahamas <u>Robert W. Robertson</u>
11.50-12.10pm	CAS-109: An Investigation of Cognitive Overload and Reaction Time in Mobile Augmented Reality Environments <u>Amrita Ramnauth</u> ; Penelope G. DeFreitas
12.10-12.30pm	CAS-103: The Impact of Fitspiration (via Social Networking Sites and Mobile Applications) on the Physical Activity Levels and Body Image of Female University Students <u>Susan A. Muir</u>
12.30-12.50pm	CAS-063: Dynamics of e-Rumor Models <u>Séverine Bernard</u> , Alain Pietrus and Kendy Valmont
12.50-1.10pm	CAS-013: Some Notable Scientists of Colonial Jamaica <u>Robert J. Lancashire</u>

## BLUE ROOM2

### Theme 4: Science for Sustainable Development.

*Session Chair: Dr Donovan McGrowder*

11.30-11.50am	CAS-029: A Point Prevalence Survey of Health Associated Infections and Antimicrobial Use in a Public Health Institution in Trinidad <u>Shinelle C. Francois</u> , Patricia Sealy and George Legall
11.50-12.10pm	CAS-035: Entropy Analysis of Heart Rate Variability of Adult Human Diabetics and Non-diabetics Before, During and After Mild Exercise <u>Michelle Amoroso</u>
12.10-12.30pm	CAS-043: PET Technology: An Opportunity for Innovation in Radiopharmacy and Nuclear Medicine in the Caribbean Lyonel Belia, <u>Caroline Faes</u> , and Ulises. J. Jáuregui-Haza
12.30-12.50pm	CAS-073: The Impact of Dibenzyl Trisulfide on Breast Cancer Cell Lines Derived from African American Patients and on Cytochrome P450 Enzymes <u>Shaniece F. Wauchope</u> , Jonathan V. Wooten, Nicole U. Mavingire, Petreena S. Campbell, JéAnn E. Watson, Eileen J. Brantley, Maxine D. Gossell-Williams, and Rupika Delgoda
12.50-1.10pm	CAS-003: Integrating Global Biomedical Sciences for Health Research in the Caribbean: The University of the West Indies and State University of New York Health Research Task Force John F. Lindo, Jeffrey C. Lombardo, Terrence Forrester, Horace Fletcher, Tomlin Paul, Gina Prescott, Alison Nicholson, Andrew H. Talal, Sanjay Sethi, Brian Tsuji, Venu Govindaraju, Karen Phillips, Tyler Mullen, Jack DeHovitz, and <u>Gene D. Morse</u>

1:30-2:30pm	Lunch
2.30-3.30pm	Closing ceremony



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