

BUILDING CLIMATE CHANGE RESILIENCE

INNOVATIVE TOOLS: EMERGING DIGITAL APPLICATIONS IN CLIMATE-SMART AGRICULTURE

JANUARY 11-13, 2022



REGIONAL CLIMATE RESILIENCE WORKSHOP

THE CONTEXT

The Agriculture Sector in Jamaica and the wider Caribbean is inherently vulnerable to climate. The holdings are small, very heavily reliant on rainfall, susceptible to droughts, and have limited investment in heat and drought-tolerant crops. Further, the general absence of site and varietal specific yield, results in manual approaches to yield optimization and to investigating the impacts of agroecology on production. One tool geared towards addressing this hiatus is the ACCEPT Agri portal which is an online platform developed under the National and Regional tranches of the PPCR that allows for customized assessment of yield potential. The portal is based on the Decision Support System for Agro-technology Transfer (DSSAT) which runs in the background. Through an interactive geo-referenced map, user-defined crop management information, site weather and soil, site specific yield information can be accessed in graphical and tabular formats. The portal was developed under the National and Regional tracks of the Pilot Program for Climate Resilience (PPCR) and updated with support from the CCRIF SPC. Other innovative and tailored impact assessment tools to be explored will include AquaCrop, DSSAT, C-SAC, and SMASH.

THE OBJECTIVES

- To build awareness of climate resilience options in the Caribbean Agriculture Sector;
- To demonstrate the value-added of crop simulation Modelling;
- To provide hands-on training in the use of e-solutions for climate resilience: ACCEPT Agri, C-SAC, Artificial intelligence and reef modelling;
- To evaluate Caribbean Climate Resilience service products for the Agriculture Sector; and
- To explore options for financing Caribbean Climate Resilience.

CONTACT

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INNOVATIVE TOOLS: EMERGING DIGITAL APPLICATIONS IN CLIMATE-SMART AGRICULTURE

OPENING CEREMONY

TUESDAY, JANUARY 11, 2022

Chairperson:

Prof. Tannecia Stephenson

Co-Director of the Climate Studies Group
Head, Department of Physics, The UWI, Mona

Prayer:

Mr. Michael Card

Planning Officer, Office of the Deputy Principal
The UWI, Mona

Greetings:

The UWI

Prof. Tannecia Stephenson

Co-Director of the Climate Studies Group
Head, Department of Physics, The UWI, Mona

The CCRIF SPC

Ms. Elizabeth Emmanuel

Head, CCRIF Technical Assistance Manager Team
Head, CCRIF Corporate Communications Manager Team

The PPCR Regional

Dr. Georgiana Gordon-Strachan

Director, PPCR Caribbean Regional Track

Rural Agricultural Development Authority, Jamaica

Mr. Winston Shaw

Senior Director, Technology Training
and Technical Information

Keynote Address

Dr. Stacy Richards-Kennedy

Pro-Vice Chancellor, Global Affairs, The UWI

Vote of Thanks

Ms. Erica Haughton

Programme Manager, Caribbean Regional Track PPCR

CROP MODELLING

DAY 1 : JANUARY 11, 2022

8:00 - 9:00 AM	Opening Ceremony	UWI, CCRIF SPC PPCR, RADA
9:00 - 9:20 AM	Break	
9:20 - 9:40 AM	Logistics for Workshop and Introduction of Participants	Dale Rankine
9:40 - 10:35 AM	Module 1: Climate Change and Agriculture and the 1.5 Dilemma: What is Really at Stake?	Michael Taylor
10:35 - 10:50 AM	Exercise 1: Are You Climate Smart?	Jayaka Campbell
10:50 - 11:30 AM	Module 2: Introduction to Crop Modelling	Dale Rankine
11:30 - 12:00 PM	Lunch	
12:00 - 1:00 PM	Exercise 2: Can You Optimise Your Yield?	Dale Rankine/ Jayaka Campbell
1:00 - 1:45 PM	Module 3: Caribbean Climate Services Products for Agriculture Sector - Perspectives from the Caribbean Institute for Meteorology & Hydrology (CIMH) and Meteorological Service (MSJ) Jamaica	Adrian Trotman Chief of Applied Meteorology & Agro- Meteorology, CIMH Glenroy Brown MSJ
1:45 - 2:15 PM	Exercise 3: Are we in Jeopardy?	Dale Rankine

CONTACT

TRACIA JOHNSON-BLAIR
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ARE YOU CLIMATE SMART?

DAY 2 : JANUARY 12, 2022

8:00 - 8:15 AM	Welcome and Opening Remarks	Dale Rankine
8:15 - 9:15 AM	Disaster Risk Financing Tools Applicable to the Agriculture And Fisheries Industry	Gina Ganguinetti- Phillips
9:15 - 10:00 AM	Module 4: Characterizing Environmental Heat Stress on Livestock - Temperature Humidity Index	Jane Cohen
10:00 - 10:15AM	Break	
10:15- 11:00 AM	Module 5: The Impact of Heat Stress on Caribbean Livestock - The Lived Experience	Cicero Lallo
11:00 - 11:45 PM	Exercise 4: Using the THI to Characterize Heat Stress - Proposing remedial actions	Jane Cohen/ Dale Rankine/ Cicero Lallo
11:45 - 12:15 PM	Lunch	
12:15 - 1:00 PM	Module 6: Building Resilience in the Fisheries Sector: Opportunities for integrating digital technologies	Shelly-Ann Cox
1:00 - 1:20 PM	Understanding the Climate Smart Dilemma	Steve Maximay
1:20 - 2:05 PM	Module 7: Demonstrating the C-SAC Tool Hands-On Applications	Steve Maximay
2:05 - 2:30 PM	Module 8: Towards an All-Platform all Devices Application for Evaluating and Certifying Climate Smart Agriculture	Jayaka Campbell/ Theodore Wynter

CONTACT

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INNOVATIVE CARIBBEAN IMPACT ASSESSMENT TOOLS

DAY 3 : JANUARY 13, 2022

8:00 - 8:15 AM	Welcome & Opening Remarks	Tannecia Stephenson
8:15 - 9:15 AM	Panel Discussion: Financing Climate Resilience For the Agriculture Sector	CCRIF SPC, GCF
9:15 - 9:30 AM	Break	
9:30 - 11:30 AM	Impact Assessment Tool - SMASH	Theodore Wynter/ Jayaka Campbell
11:30 - 12:15 PM	Introduction to the DSSAT Software	Dale Rankine
12:15 - 1:00 PM	ACCEPT - DSSAT Made Simple	Theodore Wynter/ Jayaka Campbell
1:00 - 1:30 PM	Lunch	
1:30 - 2:30 PM	Review - Final Jeopardy	Jakaya Campbell
2:30 - 3:15 PM	Workshop Assessment	Dale Rankine
3:15 - 3:25 PM	Vote of Thanks	Erica Haughton

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BIOGRAPHY

Professor Tannesia Stephenson



**Co-Director of the Climate Studies Group
Head, Department of Physics, The UWI,
Mona**

Prof. Tannecia Stephenson is co-Director of the Climate Studies Group, Mona and Head of the Department of Physics at The University of the West Indies, Mona Campus. Her research interests are Caribbean climate variability and change, climate extremes and statistical modelling. She has published over 75 journal articles, book chapters, monographs and technical reports with collaborators. Her work experience includes conducting research as a visiting fellow at the Climatic Research Unit at the University of East Anglia in the United Kingdom. Prof. Stephenson has served on a number of international teams including the Coordinated Regional Climate Downscaling Experiment (CORDEX) Science Advisory Team (CORDEX-SAT) and the Task Team on Guide to Climatological Practices (TT-GCP) of the World Meteorological Organization. She is also a lead author on Chapter 10 "Linking global to regional climate change" for the Working Group 1 Contribution to the IPCC Sixth Assessment Report.

BIOGRAPHY

Elizabeth Emmanuel



**Head, CCRIF Technical Assistance
Manager Team**

**Head, CCRIF Corporate Communications
Manager Team**

Elizabeth Emanuel is an international development consultant with over twenty years of development experience. She heads the partnership Sustainability Managers which is contracted by CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility) since 2009 to lead the Technical Assistance and Corporate Communications portfolios of CCRIF as well as its strategic planning and aspects of its IT portfolio. She also supports CCRIF on several special projects such as the Climate Risk Insurance in the Caribbean Project which focuses on microinsurance for vulnerable groups, the Country Risk Management Project and COAST Insurance for the fisheries sector.

With respect to the sustainable development goals (SDGs) she has worked with 3 countries in the Caribbean in the preparation of their Voluntary National Reviews of the SDGs to the UN High Level Political Forum –Guyana, St. Vincent and the Grenadines and Antigua & Barbuda.

BIOGRAPHY

Dr. Georgiana Gordon-Strachan



Director PPCR Caribbean Regional Track

Dr Georgiana Gordon-Strachan is the Director of the Tropical Metabolism Research Unit (TMRU). She officially joined the staff of the Caribbean Institute for Health Research (CAIHR) in 2018 as a Senior Lecturer at the Sickle Cell Unit. Dr Gordon-Strachan specialises in epidemiology, health policy, health services research, research methods, and Biostatistics. She holds a PhD in Biochemistry (UWI), an MSc Health Policy Planning and Financing (University of London) and a BSc in Biochemistry and Zoology (UWI). She holds various postgraduate diplomas in Data Analysis, Epidemiology, and Public Policy and Health Economics from the Johns Hopkins University and University of Aberdeen, Scotland. She is the former Director of the Mona Office for Research and Innovation (MORI) in which the PPCR Caribbean Regional Project sits and is the Director for the said project.

BIOGRAPHY

Winston Shaw



**Senior Director, Technology,
Training and Technical Information
The Rural Agricultural Development
Authority (RADA), Jamaica**

A Plant Pathologist by initial training, he is an EU-recognized Senior Expert on Climate-Smart Agriculture and was amongst the first agricultural scientists addressing climate change concerns during the Caribbean Planning for Adaptation to Climate Change (CPACC) project in 1997. He has conducted training sessions on comprehensive Climate-Smart Agriculture for several national, regional and international organizations. A former UN-FAO Climate Change Advisor (Caribbean) and the current Science Advisor to the Association of Caribbean Media-workers he developed the Trademarked Climate-Smart Agriculture Compliant (C-SAC) training, certification and auditing tool.

BIOGRAPHY

Dr. Stacy Richards-Kennedy



**Interim Pro Vice-Chancellor of Global Affairs
The University of the West Indies**

Keynote Speaker

Dr. Stacy Richards-Kennedy was appointed Interim Pro Vice-Chancellor for Global Affairs at The University of the West Indies (The UWI) on August 1, 2021. She assumed leadership of the regional university's global engagement portfolio and is responsible for coordinating internationalisation and strategic global initiatives across The UWI system.

Dr. Richards-Kennedy has over 20 years' experience in multilateral negotiations, development management and international finance. Prior to joining The UWI, she served as Assistant Resident Representative of the United Nations Development Programme (UNDP) for Trinidad and Tobago, Aruba, Curaçao and St Maarten; Chief Technical Advisor, Inter-American Development Bank (IDB); Consultant, The World Bank and Programme Specialist, UNESCO.

BIOGRAPHY

Erica Haughton



**Programme Manager,
Caribbean Regional Track
Pilot Programme for Climate
Resilience (PPCR)**

Erica Haughton is the Program Manager for the Investment Plan of the Caribbean Regional Track of the Pilot Program for Climate Resilience (PPCR). She also serves as the program's Procurement Specialist. She holds an MBA in International Relations from the Mona School of Business and Management UWI and a Certificate in Applied Project Management from Boston University.

Prior to joining the PPCR Program Unit, Erica served in the capacity of General Operations Consultant for the then Multilateral Investment Fund (now called IDB Lab) of the InterAmerican Development Bank (IDB) where she co-designed and monitored a portfolio of 35 projects, including 4 regional projects, with an accumulated value in excess of US\$31 million.

BIOGRAPHY

Professor Michael Taylor



**Dean of the Faculty of Science and Technology;
Senior Lecturer; Professor
The University of the West Indies, Mona**

Presenter

Area of Specialization:

Environmental Physics, Caribbean Climate Variability, Climatology, Climate Change

Professional Activities

1. Caribbean Climate Modellers Consortium.
 2. Science Panel Member, CLIVAR, Variability of the American Monsoon Systems (VAMOS) Panel. World Climate Research Programme (WCRP). (2011-2014)
 3. Board member, Water Resources Authority, Jamaica
- Current Projects (Involvements)
1. Pilot Programme for Climate resilience (PPCR):Regional Track
 2. Tropical Storm Modelling. For Caribbean Weather Impacts Generator (CARIWIG)
 3. Sustainable Water Management under climate change in small island states of the Caribbean (Water AccIS).
 4. Ensemble Climate Modeling in the Caribbean Region.

BIOGRAPHY

Adrian Trotman



**Chief of Applied Meteorology & Climatology
Caribbean Institute for Meteorology and Hydrology (CIMH)**

Presenter

Responsible for the agricultural meteorology programme at Caribbean Institute for Meteorology and Hydrology (CIMH). This includes training of meteorological and agricultural personnel from the sixteen member territories of the Caribbean Meteorological Organization, as well as research and development activities in those territories. Currently Acting as Chief of Applied Meteorology and Climatology (since July 2007). This section develops weather and climate related products that would be an asset to the productive and supportive sectors of the region; inter alia water resources, agriculture, tourism, energy.

BIOGRAPHY

Glenroy Brown



**Climate Service Specialist
Meteorological Service of Jamaica (MSJ)**

Presenter

Mr Glenroy Brown is the Climate Service Specialist in the climate branch of the Meteorological Service of Jamaica. He is currently in charge of all seasonal climate-related products at the Meteorological Service. He received his formal training from the Caribbean Institute for Meteorology and Hydrology and UNICAF University where he is currently pursuing a bachelor of science degree in computer science. He is also the World Meteorological Organisation (WMO) climate service focal point representative for Jamaica as well as he is integrally involved in climate service activities both regionally and internationally. Mr Brown is also a lecturer at the Caribbean Maritime University, where he has been teaching Meteorology for the past nine years.

BIOGRAPHY

Gina Sanguinetti Phillips



**Technical Assistance Manager and
Corporate Communications Manager teams
CCRIF**

Presenter/Panelist

Gina Sanguinetti Phillips is part of the CCRIF Technical Assistance Manager and Corporate Communications Manager teams. Ms. Sanguinetti Phillips has over 20 years development experience in the Caribbean region, in the areas of environmental education, policy development, strategic planning and project management in areas related to environment and sustainable development, energy, disaster risk management and climate change, among others. Also, she has lectured in environmental communication and environmental science at the University of the West Indies, Management Institute for National Development (Jamaica) and the University of Phoenix (USA). Ms. Sanguinetti Phillips has master's degrees in Environmental Management and Policy and in Computer Science.

BIOGRAPHY

Dr. Jane E. Cohen



**Retired lecturer
Department of Life Sciences
The University of the West Indies,
Mona**

Presenter

As a lecturer for over 20 years in the Department of Life Sciences, UWI Mona, Jane Cohen has conducted field-based crop research in the areas of plant physiology, soil fertility and weed management. Her focus is on environmentally sustainable systems for Jamaican agriculture. Recent work is on rapid propagation of cassava and, in partnership with the Climate Studies Group Mona, modelling of root crops and use of heat indices for applications in the changing Caribbean climate.



BIOGRAPHY

Cicero H. O. Lallo



University of the West Indies

St. Augustine | UWI

**Open Tropical Forages and Animal
Production Laboratory**

Department of Food Production

BSc. Agriculture (Hons), MSc. Animal Science

Presenter

Engaged in Livestock Research Regionally for over 30 years.

Mission Statement: To use my god given gifts and talents to enhance protein security in the Caricom region through livestock production and to train the future generation in animal production so as to secure protein and food sovereignty for the future generations.

Worked with the Sugarcane Feeds Centre for 10 years as the Livestock Productionist and 25 years at The University of the West Indies, St. Augustine Campus, Trinidad and Tobago. Retired since 2018 as Senior Lecturer in Animal Science, with over 60 publications. Trained a number of students as Regional Researcher at the levels of BSc, MSc, MPhil and PhD.

BIOGRAPHY

Dr. Shelly-Ann L. Cox



Deputy Chair of Fisheries Advisory Committee (Barbados)

BSc (UWI, St. Augustine)

Ph.D. (UWI, Cave Hill)

Presenter

Dr. Shelly-Ann Cox is an experienced ocean professional, fisheries management specialist and mother of a 3-year old Aquatoddler. Shelly-Ann has more than 10 years' experience in fisheries management and applied interdisciplinary climate related research. In her role as Deputy Chair of the Fisheries Advisory Committee in Barbados, she is well known for building productive partnerships with national and regional fisheries stakeholders. She is also passionate about the promotion of digital technologies in building the resilience of the Caribbean fisheries sector to climate variability and change.

BIOGRAPHY

Steve Maximay



**Department of Agricultural Economics
The University of the West Indies
St Augustine Campus**

Presenter

A Plant Pathologist by initial training, he is an EU-recognized Senior Expert on Climate-Smart Agriculture and was amongst the first agricultural scientists addressing climate change concerns during the Caribbean Planning for Adaptation to Climate Change (CPACC) project in 1997. He has conducted training sessions on comprehensive Climate-Smart Agriculture for several national, regional and international organizations. A former UN-FAO Climate Change Advisor (Caribbean) and the current Science Advisor to the Association of Caribbean Media-workers he developed the Trademarked Climate-Smart Agriculture Compliant (C-SAC) training, certification and auditing tool.

BIOGRAPHY

Dr. Jayaka Campbell



**Assistant Lecturer
Department of Physics
The University of the West Indies**

Presenter

JD Campbell is an Assistant Lecturer in the Department of Physics at the University of the West Indies, Mona Campus. He is a computational physicist with a focus on atmospheric sciences, more specifically, the generation of regional climate modelling scenarios at scales relevant to the small size and complex terrain of the nations of the Caribbean and its neighbours. His research includes examining the impact of climate, climate change and climate variability on the key economic drivers and social sectors (agriculture, water, health, etc.) of the Caribbean. Like so many before him, JD Campbell credits his success to the support of his family, friends and the seemingly never-ending guidance of his mentors.

BIOGRAPHY

Theodore Wynter



Lab Demonstrator
The University of the West Indies,
Mona

Presenter

Theodore Wynter is an aspiring Condensed Matter Physicist with interests in materials for Thermoelectric applications. He holds a Bachelor of Science degree in Physics and Computer Science with First Class Honours and a Master of Philosophy in Physics. During his years as an undergraduate student, he fell in love with programming. He continued to hone his skills in the area and is now an avid Full-stack Web Developer. This has led him to seek and undertake several projects where he can constantly apply his knowledge of Physics and Computer Science to develop solutions that will aid mankind. Theodore is driven by his desire to understand how the things work and how that knowledge can be applied to solve real-world problems. He also believes in giving back to the society, one such way in which he does this is through teaching, he enjoys sharing his knowledge with others. He has taught Physics and Computer Science to students at varying grade levels.

BIOGRAPHY

Dr. Dale Rankine



Department of Physics
The University of the West Indies, Mona

Dale Rankine is an applied climate scientist in the Department of Physics, at the University of the West Indies, Mona. He holds a PhD in Physics (with High Commendation) and worked as the Agricultural Climate Modelling Research Analyst under the Regional Track of the Pilot Programme for Climate Resilience (PPCR) Project. His research interests are climate and crop simulation modelling and more broadly, assessing climate change impacts on the socio-economics of Jamaica and the wider Caribbean. Dr. Rankine is a member of the Climate Studies Group Mona (CSGM) which is headed jointly by Prof. Michael Taylor and Prof. Tannecia Stephenson. The CSGM has been pioneering research and impact studies in Climate Variability and Change in Jamaica and the wider Caribbean for over 25 years.

BIOGRAPHY

Schmoi McLean



**Programme Coordination, Monitoring
& Evaluation Officer
Climate Change division
Ministry of Housing, Urban Renewal,
Environment & Climate Change**

Panelist

Miss Schmoi McLean is the Programme Coordination, Monitoring & Evaluation Officer at the Climate Change Division (CCD) within the Ministry of Housing, Urban Renewal, Environment and Climate Change. She also acts as the liaison between the CCD and the Green Climate Fund (GCF), interacting with local, regional and international stakeholders. Prior to working at the CCD Schmoi worked as an Environment Statistician in the Censuses, Demographic and Social Statistics Division at the Statistical Institute of Jamaica where she was Jamaica's focal point for Sustainable Development Goal (SDG) Six - Clean Water and Sanitation. She also worked at the National Irrigation Commission where her primary area of focus was on rural development through her work on the National Irrigation Development Programme. Miss McLean is a graduate of the University of the West Indies (Mona) where she earned a BSc in Psychology and Sociology and a MSc in Social Policy.

BIOGRAPHY

Dr. Orville Grey



**Regional Manager Caribbean & Brazil
Green Climate Fund**

Panelist

Orville Grey is a coastal ecologist and climate change researcher by training. He holds a PhD in Environmental Biology from the University of the West Indies (Mona). Orville has over 20 years' experience in the field of environmental impact assessments and environmental management in the Caribbean, and over 13 years' experience in applied climate change.

He is currently the Regional Manager for the Caribbean and Brazil at the Green Climate Fund. He has had several technical roles in climate change adaptation at national, regional and international levels. He has also served as an adjunct lecturer at the University of the West Indies (Mona, Jamaica) in Climate Change and Environmental Management, and in Environmental Health at the Northern Caribbean University (Jamaica).

BIOGRAPHY

Moya J. Thomas



Media and General Management Professional

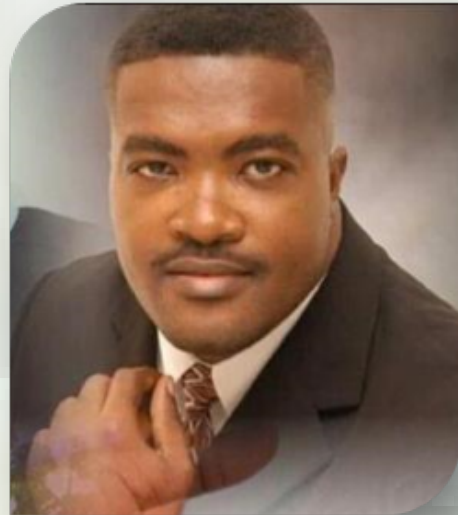
*Technical Team
Rappatuer*

Moya J. Thomas is a seasoned media and communications professional. She provides a range of communications, writing and editing services and is strong on shaping and disseminating messaging with a view to influencing thought and behavior. Her 30-year experience includes various roles at the Jamaica Broadcasting Corporation, the RJR Communications Group (Jamaica), the British Broadcasting Corporation (London), the Caribbean New Media Group (Trinidad) and Love 101 FM (Jamaica). In recent years her editing work has spanned text books, academic papers, biographies and other content. She offers conference, event and management support services and also writes for a range of purposes. Her own “voice” may be “heard” on her website 10thdaycommunications.com.

TECHNICAL/ LOGISTICAL SUPPORT TEAM



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REGIONAL CLIMATE RESILIENCE WORKSHOP

