University of Technology, Jamaica

FACULTY OF THE BUILT ENVIRONMENT

INTERNATIONAL CLIMATE CHANGE CONFERENCE

Adaptation and Mitigation Strategies for Climate Departure: Managing the Crisis

17-18 OCT. 2024

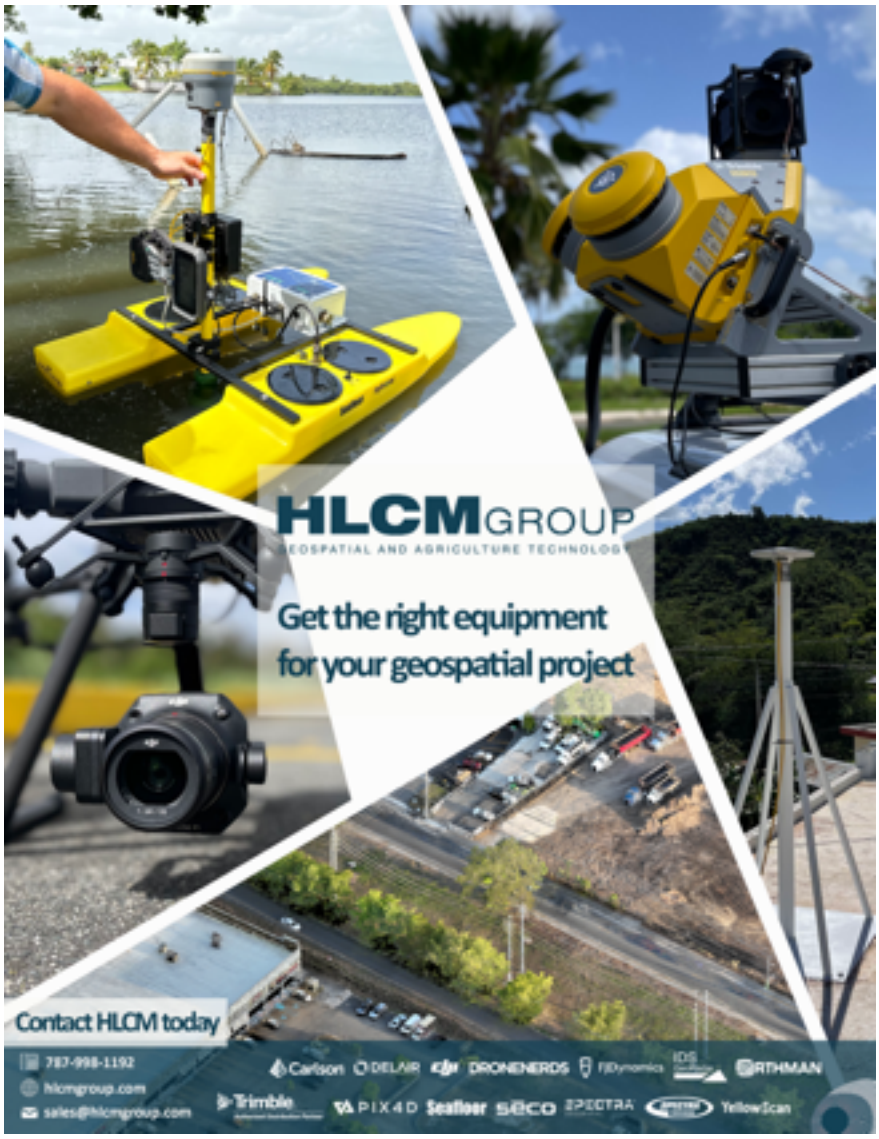
@ University of Technology, Jamaica (Papine Campus)

INTERNATIONAL CLIMATE CHANGE CONFERENCE 2024 • UTECH JA •

OUR SPONSORS

GOLD

HLCM GROUP
GEOSPATIAL AND AGRICULTURE TECHNOLOGY



OUR SPONSORS

SILVER

MINISTRY OF ECONOMIC GROWTH AND JOB CREATION

JAMAICA SOCIAL INVESTMENT FUND
INVESTING FOR COMMUNITY DEVELOPMENT

PIOJ
PLANNING INSTITUTE OF JAMAICA

Urban Development Corporation

Spatial

JIPO
Jamaica Intellectual Property Office

OUR SPONSORS

BRONZE

National Environment and Planning Agency

Wigton Windfarm Ltd

The Land Surveyors Association of Jamaica

High Seas Alliance

E-Z Block Manufacturing

Meteorological Service Jamaica

MESSAGE FROM **THE PRESIDENT, UNIVERSITY OF TECHNOLOGY, JAMAICA, FOR THE INTERNATIONAL CLIMATE CHANGE CONFERENCE**

DR. KEVIN BROWN

PHD, M ENG (HONS.), AMIMECH E

Welcome to the International Climate Conference at the University of Technology, Jamaica, led by our Faculty of The Built Environment. We are honoured to host this critical two-day forum focused on “Adaptation and Mitigation Strategies for Climate Departure: Managing the Crisis.”

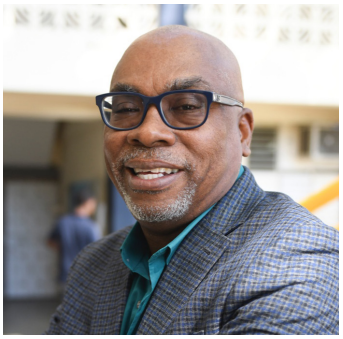
As a Small Island Developing State, our economy which is heavily reliant on tourism, agriculture, and fishing, is particularly vulnerable to the impacts of climate change, including hurricanes, rising temperatures, and extreme drought conditions. Our university recognizes the urgent need for innovative solutions, and as Jamaica’s national STEM university, we are committed to leading research and education in climate action.

We are at the forefront of research on climate change resilience, particularly in the context of our built environment. Our initiatives focus on developing innovative, sustainable architectural and engineering solutions that can withstand the increasing threats posed by extreme weather events, rising sea levels, and shifting climate patterns.

Our pioneering courses of study, such as the Master of Science in Sustainable Energy and Climate Change, are designed to equip our graduates with the skills necessary to drive sustainable energy systems and contribute to Jamaica’s Vision 2030 goals.

In addition, our university is addressing the climate challenge by are aligning our new Campus Master Plan with the green agenda and a net zero future, with the goal of integrating sustainable practices and renewable energy solutions across all aspects of our infrastructure and operations.

We welcome the opportunity to engage with all our conference participants in knowledge sharing and discussions that can shape our climate strategies toward resilience and sustainability for Jamaica and beyond.
Thank you for being part of this important dialogue. We look forward to your participation in an enriching and enlightening conference.



MESSAGE FROM **THE DEAN OF THE FACULTY OF THE BUILT ENVIRONMENT**

DR. LAURENCE NEUFVILLE

Welcome to the Faculty of the Built Environment Climate Change Conference.

As the Dean of the Faculty of the Built Environment, allow me to express my thanks to you for choosing to participate in our efforts to contribute to the ongoing global climate change discussion toward a sustainable solution. This is an important event for our university, University of Technology, Jamaica, for our country, Jamaica, for the region and for the world.

The Faculty of the Built Environment has, for decades, responded to the changes happening on our planet by preparing:

- Buildings that are smart
- Professionals who are equipped
- Organizations that are responsive, and
- Research that examines best practices and promotes climate action.

In other words, climate adaptation has been incorporated in our curriculum as part of our response strategy. It is, therefore, my pleasure to welcome everyone to this conference as we continue to examine the impact of climate change. I am convinced that this conference will provide some solutions to the challenges and threats of climate change. Please note that this conference will not just be about talk. It is to be considered a serious effort toward achieving solutions toward the major challenges that occur because of Climate Change. I agree with President Sameh Shoukry "that Climate Change is humanity's biggest challenge of modern times and is a real threat to people's lives, wherever they live and, in all forms, and is the biggest thing that humanity has endured since the industrial times." I also agree that if we do not do something radical, future generations will face more serious consequences compared to that which is witnessed by current generations.

I can confirm, based on the reports I have engaged with on climate change, that if we continue on a path where we are not viewing the sustainable development goals and climate change as being symbiotically connected, we are doomed. The United Nations in its 2023 annual report states that, "the urgent business of rescuing the Sustainable Development Goals and the fight against climate change has been stalled by a lack of sufficient investment and political will." We, as a country, are being encouraged by the United Nations to invest in a sustainable solution and practices for our citizens. This investment must be heavily hinged on the impact of climate change in relation to establishing climate resilience, which cannot occur without people. And by people we mean individually and collectively.

Let me take this opportunity to remind you that Climate change is caused by human activities. In other words, how we do what we do continues to threaten life on earth as we know it. We are called to cut in half emissions by 2030, which is just five and a half years away. But how do we create a climate resilient environment when the experts warn that we are drastically off track from achieving this target?

We are required to Act Now. We are required to educate people and organizations at the micro and macro levels. Indeed, Higher education institutions, such as Utech, Ja., have a moral responsibility to ensure that our stakeholders at all levels are constantly exposed to the most current information available on the existential threat.

In 2020, the World Bank Group established six ways to build resilience to climate change to include:

• Build resilient foundation with rapid and inclusive development

• Help people and firms do their part

• Revise land use plans and protect critical infrastructure

• Help people and firms recover faster and better

• Manage the impact at the macro levels.

• Prioritize according to needs, implement across sectors and monitor progress.

These are all within the realm of the various curricula that guides our teaching and learning at this institution.

As a developing country, in Jamaica, we have a role to play in reducing the negative impact of climate change on the planet. For example, we are implored to act quickly to take the necessary steps. In this regard, the Faculty of the Built Environment and the University of Technology, Jamica in general are aptly positioned to collaborate with experts, locally, regionally and, internationally to establish and implement that which climate change solutions necessitate. For example, our urban and regional planners can continue to integrate climate change adaptation in land use planning; our surveyors can design flood mitigation measures and map critical infrastructure; our construction engineers and managers can address climate change through their expertise in designing, constructing, and managing sustainable infrastructure, and the architects can design buildings that are more energy-efficient and built in conformance with current and forecast climate variation paradigms. At the Faculty of the Built Environment, we understand that education is a critical agent to addressing climate change, which we will be able to improve upon with conferences of this nature.

Thanks to the conference organizing team for the work they have undergone to get us to the actual staging of this event. Their collective action is an indicator of the type of collaborative effort it will take to establish solutions toward climate adaptation, especially since 2023 was considered a climate emergency with the year being the hottest year to date. The United Nations Report highlights that though there are difficulties, progress is possible, and change is achievable. Thanks to Dr. Newsome for acting on what he saw as a possible solution towards change. By meeting here, we are examining our progress so that we can be a part of the larger climate change conversation and ultimately meet the goal of this specific conference, which is to espouse adaptation and mitigation strategies for managing the crisis of climate Change.

Again, welcome. Let us make use of this space so that we can create solutions toward the change we want to see.

MESSAGE FROM **THE CHAIR OF THE UTECH JA INTERNATIONAL CLIMATE CHANGE CONFERENCE**

DR. GLENDON G. NEWSOME

Welcome to the University of Technology, Jamaica's inaugural staging of our International Climate Change Conference 2024

We are truly honoured to have you join us for this exciting event, that will bring together notable Climate Change and Sustainable Energy expertise of global, regional and local academics and professionals. Over the two days, we will explore the latest trends, innovations, and best practices in the areas of: Renewable Energy, Sustainable Technologies, Geospatial Sciences and Artificial Intelligence; Ecosystem Resilience and Conservation; Urban Resilience and Infrastructure Development; Climate Cooperation, Legal and Finance; Policy, Social Equity, Justice and Poverty Alleviation; and Climate Education and Capacity Building.

Our conference features an impressive array of speakers, led by The Most Honourable Prime Minister of Jamaica, Andrew Holness ON, PC, MP. Our two (2) plenary sessions, will feature eight (8) speakers who are distinguished in their respective fields and will be complemented by panel discussions, featuring industry experts. There will be six (6) technical sessions, comprising fourteen (14) papers, which are judiciously selected presentations, by professionals who will empower you for adaptation and mitigation. Two (2) exciting workshop discussions will center around Ethics of Authorship and Publication of Research and the Costs and Benefits of Jamaica's 2050 Long-term Emission Reduction and Climate Resilient Strategy.

It is our objective that the conference will yield the following outcomes:

• Fresh articulation of Jamaica's Climate Mitigation and Adaptation Strategies; and

• Policy Recommendation, including funding arrangements to support Mitigation and Adaptation efforts

Our heartfelt thanks goes out to our sponsors, speakers, members of the organising committee and volunteers for making this event possible. We look forward to a productive and inspiring conference, one which is solution oriented, geared at pointing institutions, agencies, professionals and members of the public in the direction of being Climate Smart.

A very entertaining package awaits you during our closing ceremony!

Please take a moment to review the agenda, familiarize yourself with the venue, and get settled. Let's make the most of our time together!

CONFERENCE COMMITTEE MEMBERS

Mrs. Suzette Adams-Rickards	Faculty of the Built Environment, UTech Ja
Mr. Omar Alcock	Climate Change Division, Ministry of Economic Growth and Job Creation
Mr. Fernandez Anderson	Faculty of the Built Environment, UTech Ja
Prof. Carol Archer	Faculty of the Built Environment, UTech Ja
Dr. Earl Bailey	Faculty of the Built Environment, UTech Ja
Mr. David Barrett	Course Advisory Committee, Master of Science is Sustainable Energy & Climate Change, UTech Ja
Mr. Ivor Bennet	Markeying Unit, UTech Ja
Dr. Therese Chambers	Faculty of Engineering and Computing, UTech Ja
Mr. Peter Clarke	Water Resources Authority, Jamaica
Ms. Crystal-Gail Clue	Faculty of the Built Environment, UTech Ja
Ms. Shakira Davis	Learning Technologies Support Unit, UTech Ja
Dr. Rosemarie Dixon	College of Business and Management, UTech Ja
Mr. Erinski Easy	Learning Technologies Support Unit, UTech Ja
Mr. Wycliffe Frater	Faculty of the Built Environment, UTech Ja
Dr. Nadine Freeman-Prince	Faculty of the Built Environment, UTech Ja
Ms. Tiffany Givans	Faculty of the Built Environment, UTech Ja
Dr. Anetheo Jackson	Faculty of the Built Environment, UTech Ja
Dr. Addonna Jardine-Comrie	Faculty Science and Sport, UTech Ja
Mr. Maurice Mason	Institute for Sustainable Development, UWI
Mrs. Mlela Matandara-Clarke	Faculty of the Built Environment, UTech Ja
Mr. Ian McGowan	Faculty of Engineering and Computing, UTech Ja
Mr. Frederick Mills	College of Business and Management, UTech Ja
Dr. Laurence Neufville,	Faculty of the Built Environment, UTech Ja
Ms. Meisha Paul	Faculty of the Built Environment, UTech Ja
Dr. Elizabeth Pigou-Dennis,	Faculty of the Built Environment, UTech Ja
Dr. Ruth Potopsingh	Former Associate Vice President-Sustainable Energy and Head, Caribbean Sustainable Energy and Innovation Institute (CSEII), UTech Ja
Mr. Kirkland Rowe	Faculty of Engineering and Computing, UTech Ja
Mr. Carlyon Russell	Learning Technologies Support Unit, UTech Ja
Mrs. Sara Shabaka	Faculty of the Built Environment, UTech Ja
Dr. Copeland Stupart	Faculty of the Built Environment, UTech Ja
Ms. Mareka Sutherland	Faculty of the Built Environment, UTech Ja
Mrs. Patrice Thomas-Cameron	Faculty of the Built Environment, UTech Ja
Mrs. Nakiesha Whitfield	Caribbean Sustainable Energy and Innovation Institute (CSEII), UTech Ja
Mr. Meredith Williams	College of Health Sciences, UTech Ja
Prof. Garfield Young	Faculty of the Built Environment, UTech Ja

University of Technology, Jamaica

Accredited by The University Council of Jamaica

Caribbean Sustainable Energy and Innovation Institute
in collaboration with the Faculty of The Built Environment

Now Accepting Applications for

MSc. in Sustainable Energy and Climate Change

AY 2023-2024

Entry Requirements:

Bachelor's degree with a GPA of at least 2.7 in related disciplines:
(Engineering, Natural Sciences or Social Sciences)
OR
Any Bachelor's degree plus three years of work experience in a related industry/field

Career Opportunities:

Energy Management · Green business entrepreneurs · Policy development and analysis specializing in Energy and Climate Change · Energy demand forecasting and low carbon development

APPLY ONLINE TODAY!

https://bit.ly/utechapplications

For further information and registration:

PEThomas-Cameron@utech.edu.jm
876-970-5248 | 876-970-5243 | 876-970-5349
http://bit.ly/msseccdegree1

Scan Here

PROGRAMME

DAY 1:
OCTOBER 17, 2024

7:30 AM - 8:59 AM:
REGISTRATION

- Check-in of Attendees
- Distribution of Conference Materials and Paraphernalia

9:00 AM - 9:29 AM:
OPENING CEREMONY (ROOM LT50)

MODERATOR: Prof. Garfield Young - Programme Director, MPhil/PhD Built Environment, Faculty of the Built Environment

- Moderator's Opening Remarks - Prof. Garfield Young
- Playing of the National Anthem
- Prayer – Mrs. Shelly-Ann Irons - Senior Lecturer, Faculty of The Built Environment, UTech, Ja.
- Welcome - Dr. Kevin Brown – President, University of Technology, Jamaica
- Remarks - Dr. Laurence Neufville - Dean, Faculty of The Built Environment, UTech, Ja.
- Conference Overview - Dr. Glendon G. Newsome – Associate Professor, FOBE, Conference Chair
- Greetings – The Honourable Fayval Williams, MP - Minister of Education and Youth

9:30 AM - 10:29 AM:
KEYNOTE ADDRESS (ROOM LT50)

- The Most Honourable Andrew Holness, ON, PC, MP, DLP
  Prime Minister
- Entertainment

10:30 AM - 10:45 AM:
(ROOM 47A7 &8)
COFFEE BREAK

10:46 AM - 12:29 PM:
PLENARY SESSION 1 (ROOM LT50)

Adaptation and Mitigation Strategies for Climate Departure: Managing the Crisis

MODERATOR: Dr. Anetheo Jackson- Head, School of Building and Land Management (5 mins introduction)

SPONSORS' PRESENTATIONS:

- HLCM Group (10 mins)
- Ministry of Economic Growth & Job Creation (5 mins)
- Planning Institute of Jamaica (5 mins)

PANELISTS:

- Professor Tannecia Stephenson (10 minutes)
- Mr. Leonard Francis (10 minutes)
- Ambassador Olivier Guyanvorch (10 minutes)
- Dr. Ruth Potopsingh (10 minutes)
- **Panel Discussion & Q&A (15 minutes)**

RAPPORTEUR: Latoya Ellis-Lindo
TIMEKEEPER: Kareem Warner

12:30 PM - 1:29 PM:
LUNCH BREAK (ROOM 47A7 &8)

- Lunch and Learn
- Networking

1:30 PM - 2:59 PM:
WORKSHOPS (LT50)

WORKSHOP CHAIR:
Dr. Nadine Freeman-Prince

WORKSHOP 1 - Ethics of Authorship and Publication of Research

• Dr. Copeland Stupart, Gillian Mignott & Patricia Robinson, UTech, Ja. (40 minutes)

BREAK (15 mins)

WORKSHOP 2 - Costs and Benefits of Jamaica's 2050 Long-term Emission Reduction and Climate Resilient Strategy

• Mr. Omar Alcock – Ministry of Economic Growth and Job Creation (40 minutes)

RAPPORTEUR: D'tasha Gayle
TIMEKEEPER: Kareem Warner

3:05 PM - 4:05 PM:
TECHNICAL PRESENTATIONS 1

SUB-THEME 1: Renewable Energy, Sustainable Technologies, Geospatial Sciences and Artificial Intelligence **(ROOM LT50)**

MODERATOR: MRS. CADIEN MURRAY-STUART
PRESENTER: Valentine Fagan - Office of Utilities Regulation

TOPIC: Is Jamaica ready for 50% renewable energy by 2023? – A SWOT analysis of the electricity sector

PRESENTER: Dr.Kirkland Rowe – University of Technology, Jamaica

TOPIC: Bilevel Model for the Optimal Operation of Energy Hubs in Distributed Peer-To-Peer Framework in an Electricity/Gas Integrated Energy Network.

RAPPORTEUR: Pheone Garrick
TIMEKEEPER: Jahiem Kelly

SUB-THEME 2: Ecosystem Resilience and Conservation **(ROOM LT49)**

MODERATOR:
Dr. Rochelle Channer-Miller

PRESENTER: Ginelle Brown and Chanel Raynor (NEPA)

TOPIC: Warming waves: An overview of Jamaica's sea surface temperature trends

PRESENTER: Chevaughn G Gibson, Christopher Panther, David W. White , David Walker - University of Technology, Jamaica

TOPIC: A Proof of Concept: Soil Moisture Monitoring and Forecasting Wireless Sensor Network for use in the Agricultural and Water Resources Industry in Jamaica

PRESENTER: Nicole O Cameron & Ronaldo Smith - University of Technology, Jamaica

TOPIC: Farmers in Small Island Developing States Perceptions of Climate Change and Adaptation After a Significant Climate Event: Implications for Risk Communication

Note: 10 minutes per presentation

Q&A SESSION (15 MINUTES)

RAPPORTEUR: D'tasha Gayle
TIMEKEEPER: Kareem Warner

4:30- 4:45 PM:
CLOSE OF CONFERENCE FOR DAY 1 (ROOM LT50)

CHAIR - Prof. Therese Chambers – Lecturer, School of Engineering, Faculty of Engineering & Computing

• Key Lessons Learnt

• Wrap-up Session

4:46-5:00 PM:
NETWORKING

DAY 2:
OCTOBER 18, 2024

7:30 AM - 8:59 AM:
REGISTRATION

- Check-in of Attendees
- Networking

9:00 AM - 9:29 AM:
OPENING SESSION (ROOM LT50)

MODERATOR- Dr. Laurence Neufville - Dean Faculty of the Built Environment

- Opening Address: Hon. Matthew Samuda, M.P.
- Presentation: Senator Mrs. Sophia Frazer-Binns – Opposition Spokesperson on Environment and Ecological Heritage
- Presentation: Ms. Jennifer Baldwin – Director, Office of Environment & Health USAID/Jamaica

Note: 10 minutes per presentation

SPONSORS' PRESENTATIONS:

- Jamaica Social Investment Fund (JSIF) (5 mins)
- Jamaica Intellectual Property Office (JIPO) (5 mins)
- Urban Development Corporation (UDC) (5 mins)

9:30 AM - 10:29 PM:
PLENARY SESSION 2 (ROOM LT50)

Adaptation and Mitigation Strategies for Climate Departure: Managing the Crisis

SPONSORS' PRESENTATIONS:

- Spatial Innovision (5 mins)
- High Seas Alliance (3 mins)
- Meteorological Service of Jamaica (5 mins)

MODERATOR: MR. ANDRE BAUGH - HEAD - CARIBBEAN SCHOOL OF ARCHITECTURE

PANELISTS:

- Ms. Una May Gordon
- Dr. Theresa Rodriquez-Moodie
- British High Commissioner Judith Slater
- Dr Emily Wilkinson

Note: 10 minutes per presentation

Panel Discussion and Q&A (20 minutes)
Entertainment

RAPPORTEUR: Meisha Paul
TIME KEEPER: Denali McBayne

10:30 AM - 10:59 AM:
COFFEE BREAK (ROOM 47A7 and 8)

- Networking

11:00 AM - 11:59 AM:
TECHNICAL SESSIONS

SUB-THEME 3: Urban Resilience and Infrastructure Development **(ROOM LT50)**

MODERATOR: DR. COPELAND STUPART

PRESENTER: Monique Lewis - Planning Institute of Jamaica

TOPIC: Integrating green infrastructure for a resilient Kingston Metropolitan Area: Mitigating urban heat and flood risks.

PRESENTER: Gerald Nyanjua Amolo - Landscape Architect, Nairobi, Kenya

TOPIC: Global development in the age of climate displacement

PRESENTERS: Jerrold J Johnson & Dale Merill - EZ Blocks Manufacturing Jamaica Ltd.

TOPIC: E-Z Block: Revolutionizing Caribbean Construction for Climate Resilience and Sustainability E-Z Block: Revolutionizing Caribbean Construction for Climate Resilience and Sustainability

PRESENTERS: Dwayne O Peart & Therese Chambers - University of the West Indies

TOPIC: District cooling in Kingston Jamaica. Viability and implementation recommendations

RAPPORTEUR: Tiffany Givans
TIMEKEEPER: Omario Lynch

12:30 PM - 1:29 PM:
LUNCH BREAK (ROOM 47A7 and 8)

- Lunch and Learn
- Networking

1:30 PM – 2:59 PM:
HLCM TECHNICAL SESSION (ROOM LT50)

MODERATOR: DR. NADINE FREEMAN-PRINCE

SUB-THEME 5: Policy, Social Equity, Justice and Poverty Alleviation

PRESENTER: Dr. Ning LIU – Architect at 8:30 p.m. Paris time

TOPIC: Social equity and youth participation - Connecting Jamaican community sport facility development to Paris 2024 Olympic Games Heritage

SUB-THEME 6: Climate Education and Capacity Building in Geospatial Sciences

PRESENTER: Prof. Garfield Young - FOBE, UTech, Jamaica

TOPIC: Bolstering HE to strengthen Caribbean climate resilience – The bi-lingual (bTOOC) approach

PRESENTER: Roshni Sharma - Co-chair of the Climate Compass Task Force with the International Federation of Surveyors (FIG)

TOPIC: Geospatial Data in Climate Change Monitoring

Q&A

RAPPORTEUR: Suzette Adams-Rickards
TIMEKEEPER: Denali Mcbayne

1:30 PM – 2:59 PM:
TECHNICAL SESSION (ROOM LT49)

MODERATOR: DR. KIRKLAND ROWE

SUB-THEME 4: Climate Cooperation, Legal and Finance

PRESENTERS: Ajani Alleyne, Eleanor Terrelonge, Sharisa Buckle - Ministry of Economic Growth & Job Creation - Climate Division

TOPIC: Jamaica's pathway to innovative climate finance mechanisms

SUB-THEME 5: Policy, Social Equity, Justice and Poverty Alleviation

PRESENTER: Dahvia Hylton, Jamaica Climate Change Youth Council

TOPIC: Climate mitigation policy paper

Q&A

RAPPORTEUR: Pheone Garrick
TIMEKEEPER: Omario Lynch

Note: 10 minutes per presentation

- **Panel Discussion on the Impact of Innovations in the Industry and Q&A**

3:00 PM - 3:30 PM:
AFTERNOON BREAK (ROOM 47A7 and 8)

- Networking Opportunity

3:30 PM - 4:14 PM:
CLOSE OF CONFERENCE FOR DAY 2 (ROOM LT 50)

CHAIR - Professor Carol Archer, Graduate Studies Coordinator, FOBE

- Key Lessons Learnt
- Wrap-up Session

4:15 PM - 4:44 PM:
CLOSING REMARKS

- Closing Remarks by the Conference Chair
- Information on Post-conference Resources and Follow-up
- MScSECC

4:45 PM - 5:30 PM:
FAREWELL RECEPTION

- Entertainment- UTech, Ja Centre for the Arts & Expressions
- Final Networking Opportunity
- Exchange of Contact Information and Farewell

SPEAKERS' PROFILES: **PLENARY**

LEONARD A. FRANCIS

Chief Executive Officer For The National Environment And Planning Agency (NEPA)

Leonard A. Francis is the Chief Executive Officer for the National Environment and Planning Agency (NEPA) in Jamaica since April 2, 2024. He is a trained environment and planning professional with more than 30 years of experience.

Mr. Francis has done and supervised research in a number of areas including, noise, parking, the development approval process, green and open spaces, masterplans, densification of the Kingston Metropolitan Area, Green Development Principles, Development Standards, Urban Development Policy, Restrictive Covenants, Sustainable Development, and issues related to Climate Change amongst other matters.

He is an adjunct lecturer at the University of Technology in the Urban and Regional Planning Programme. In addition, he has been a Member and Chairman of the Urban and Regional Planning Advisory Committee at the University of Technology and has been a regular presenter at several Local and Regional Workshops and Conferences.

Mr. Francis possesses a Master's Degree in Planning from the University of Ryerson, Toronto, Canada as well as an MBA in Public Sector Management from the University of the West Indies, Mona. He also holds a First Degrees in Environment and Planning, Economics and Management and an LLB.

Mr. Leonard Francis has participated and received training in several areas, such as, Conflict Resolution, Public Sector Senior Leadership Development Programme, Green and Innovative Development, Preparation of Cabinet Submissions, Project Management, Performance Management, Integrated Environmental, Protocol and Business Etiquette, Stress and Time Management, Enhancing Recruitment and Selection Skills for Greater Productivity and Cutting the Bureaucratic Red Tape amongst others.

Mr. Francis is an executive member of the Caribbean Planning Association and represents the organisation as Co-chair of the Comprehensive Disaster Management (CDM) Physical and Environmental Planning Sector Sub-Committee of the Caribbean Disaster Emergency Management Agency. He is a member and has held a number of executive posts in the Jamaican Institute of Planners

He is a member of several Boards, Authorities and/or Committees which includes the Negril Green Island Area Local Planning Authority, the Planning and Development Committee of the Urban Development Corporation, the Educom Co-operative Credit Union, the International Centre for Environmental and Nuclear Sciences, the Jamaica Railway Corporation, Jamaica Civil Service Housing Company Limited, the Gregory Isaacs Foundation and the Evans Early Childhood Institution

SPEAKERS' PROFILES: **PLENARY**

UNA MAY GORDON

Senior Climate Change Expert & Resilience Advisor

UnaMay has over 40 years' experience successfully intersecting policy formulation and development programmes in agribusiness, natural resources management, climate change adaptation and mitigation.

For six years & up to July 2022, she served as the Principal Director, Climate Change for the Government of Jamaica Ministry of Economic Growth & Job Creation where she was responsible for building out Jamaica's climate change agenda, developing a shared vision among all stakeholders for the implementation of sustainable & transformative actions.

She currently works as an independent expert supporting governments, private sector, civil society and other institutions across the Caribbean region & globally, to increase their access to climate finance, promote climate governance and integration of climate risk into planning & decision making processes.

For five years & up to June 2024, she served as Chair of the Board of Governors of the Caribbean Community Climate Change Centre (CCCCC). She is the current Co-Chair of the Board of Directors of the Caribbean Climate Smart Accelerator (CCSA), Board member of the Caribbean Sustainable Energy & Innovation Institute, and Board member of Recycling Partners of Jamaica.

UnaMay holds a Master of Science in Environmental Sciences from Wageningen University and a Bachelor of Science in Agronomy (Hons) from the University of the West Indies. She was awarded an Honorary Doctorate of Laws in Humanities for her outstanding contribution to the field of rural development in the Americas. She is an I Change Nation Golden Rule Ambassador.

SPEAKERS' PROFILES: **PLENARY**

OLIVIER GUYONVARCH

Ambassador of France to Jamaica

Mr. Olivier Guyonvarch is a Senior Foreign Affairs Advisor. He was bestowed the honour of Knight of the Order of Merit (Chevalier de l' Ordre du Mérite), and is the recipient of the Foreign Affairs medal (gold level), as well as the medal of National Defense Volunteer Services and is a reservist citizen of the French Navy (CF). He is a career diplomat and specialist in China and the Law of the Sea. Prior to joining the French Ministry of Foreign Affairs, he pursued a technical degree in agriculture (1986). With a passion for Chinese language and culture, he completed a Master's Degree in Chinese in 1990 and from 1998, paid frequent visits to China and was posted there three times. He joined the French Ministry of Foreign Affairs by way of the professional examination (concours) for Secretary of Chancery (1996-1998), and then was promoted through examination to Secretary (2001) and Counsellor (2004).

He started his career at the Quai d'Orsay within the Department of Financial and Budgetary Affairs (1996- 1998), and was subsequently appointed Vice-Consul of the Consulate General of France in Wuhan, China (1998-2001). Following his posting in Wuhan, he returned to Paris to work within the Department for Asia and Oceania, as Desk Officer (2001-2005), firstly at the sub-directorate for Southern Asia, then the sub-directorate for the Far Eastern Orient (in charge of Chinese interior policy). He was then posted to the Embassy of France in Beijing from 2005 to 2008 as the Head of the Press and Communications Section, then at the Embassy of France in Singapore as First Counsellor and Deputy Head of Mission (2008-2012).

On his return to Paris he chose the position of Assistant Director of the Law of the Sea, of River law and Poles, within the Legal Affairs Department (2012-2016). It is during that period that he visited Kingston four times to head the French delegation at the International Seabed Authority.

He returned to Beijing in 2016-2017 as Advisor to the Ambassador on questions of international law and security. He was then appointed Consul General of France in Wuhan (2017-2021), a period marked by the outbreak of the Covid-19 pandemic and the evacuation by air, organized by France, of 520 French citizens, Europeans and citizens of other nations.

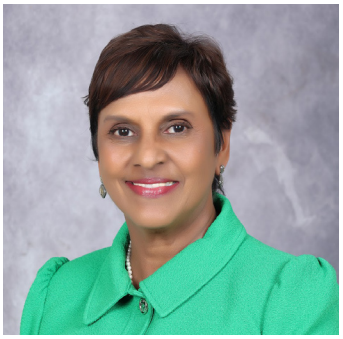
SPEAKERS' PROFILES: **PLENARY**

DR. EMILY WILKINSON

Principal Research Fellow in ODI's Global Risks and Resilience Programme and Director of the Resilient and Sustainable Islands Initiative (RESI)

Dr. Emily Wilkinson is a Principal Research Fellow in ODI's Global Risks and Resilience Programme and Director of the Resilient and Sustainable Islands Initiative (RESI). She has 25 years' experience as a researcher, analyst, journalist, lecturer and adviser to government, providing critical analysis and leading debate on climate and disaster risk governance and financing. Emily is a specialist in Small-Island Developing States (SIDS), focusing on climate policy, access to finance and opportunities for long-term development in an era of accelerating climate change. She served as Chief Scientific Adviser to the Climate Resilience Agency for Dominica (CREAD) from 2019-2023, supporting the nation's ambition to become the world's first climate resilient nation, and is a senior adviser to the Alliance for Small Island States (AOSIS).

Emily has led major research and learning programmes on adaptation and resilience to climate extremes and disasters, and published over 50 journal articles, reports and book chapters. She holds a PhD in Human Geography from University College Londo



SPEAKERS' PROFILES: **PLENARY**

RUTH POTOPSINGH

Consultant in Energy and Environment

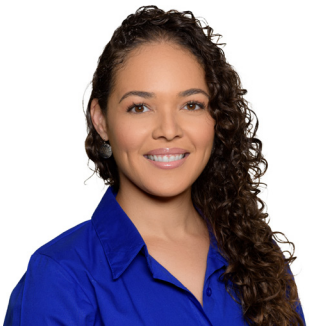
Ruth Potopsingh has a distinguished career in energy , environmental management, development planning, corporate governance and policy development. A graduate of the University of the West Indies and the University of London, she holds a PhD in Sustainable Development, an EMBA and an MSc in Urban Development Planning. A Commonwealth Scholar, her passion is for sustainable development in the face of a global climate crisis. She was awarded by CARICOM as an outstanding woman in sustainable energy 2023.

She has over thirty-five years' experience in the energy sector, most of which were at the Petroleum Corporation of Jamaica (PCJ) where her ultimate position was Group Managing Director. There, she led National Energy Efficiency and Conservation programs; spearheaded the national program which saw the removal of lead in gasoline and introduction of two octane grades of gasoline. She was to later work on realizing 10% ethanol in gasoline in a bid to see cleaner fuels in the local market.

Her work in the petroleum sector saw the introduction of several environmental standards and regulations ranging from fuel quality to oil spill contingency planning and the prevention of ground water contamination. Her environmental commitment positioned her well to advance for Jamaica's renewable energy transition from its inception. Preparing the first Bioenergy Resources Assessment for Jamaica she initiated research in 5 species of fast-growing trees to address deforestation as a result of the increased use of charcoal for cooking. She pioneered the Jamaica Solar Energy Association to stimulate commercial interest in the industry and was part of the decision to build the first commercial wind farm at Wigton.

Dr Potopsingh was a key player in the advancement of Jamaica's National Energy Policy 2009 -2030 and its draft sub policies as well as a contributor to Vison 2020, Jamaica's National Development Plan.

Transitioning from corporate Jamaica to academia in 2010 she joined the University of Technology, Jamaica where she was Associate Vice President- Sustainable Energy. There she forged local, Caribbean Regional and International alliances to highlight the nexus between energy and climate change and introduced a cutting edge Master's degree program in Sustainable Energy and Climate Change . She participated in a number of international sponsored research projects and managed a green hydrogen project, a Global Fuel Economy project for the Government of Jamaica . At the university she obtained sponsorship from the JPS which installed a 100 kilowatt solar system which is a first step for the wider adoption of renewable energy on the Papine Campus engaging students and staff in energy management as volunteers. Dr Potopsingh is currently a consultant in energy and environment.



SPEAKERS' PROFILES: **PLENARY**

DR. THERESA RODRIGUEZ-MOODIE

Chief Executive Officer of the Jamaica Environment Trust (JET)

Dr. Theresa Rodriguez-Moodie always had a passion for the environment growing up. She developed this love even further after completing her BSc in Geography. She went on to complete her PhD in Geography at the University of the West Indies, Mona in the area of coastal geomorphology and paleoclimatology.

Dr. Rodriguez-Moodie has worked as an Environmental Scientist and Climate Change Vulnerability Specialist both locally and regionally, for private sector, government and multilateral agencies such as the World Bank Group and the IDB. She has extensive knowledge of IFC and IDB environmental and social safeguards and policies. In her over 10 years of experience she has developed specific skills in conducting environmental assessments, hazard analysis and mitigation, climate vulnerability and risk assessments.

In July 2021, she became the CEO for the Jamaica Environment Trust where she has been leading its environmental advocacy and working on projects geared towards the protection of Jamaica's natural resources and public health. Her advocacy efforts focus heavily on the need for greater environmental monitoring and enforcement, access to environmental information, the need for transparency and public engagement in Jamaica. In her work she also addresses challenges posed by extractivism and deep-sea mining, proposing actions for the government to honour the Jamaican Constitution which guarantees all Jamaicans a right to a healthy environment.

SPEAKERS' PROFILES: **PLENARY**

JUDITH SLATER

British High Commissioner to Jamaica

Judith Slater succeeded Asif Ahmad CMG as British High Commissioner to Jamaica on 13 October 2021. She's the first woman British High Commissioner to Jamaica.

Judith was Consul-General in Istanbul and simultaneously HM Trade Commissioner for Eastern Europe and Central Asia, covering 14 markets. Prior to this, she was Deputy High Commissioner and South East Asia Regional Director of Trade and Investment in Singapore until September 2015.

Her previous posts include Deputy High Commissioner in Pretoria, South Africa from 2007 to 2011 and British Consul-General in Houston, Texas from 2004 to 2007. In the FCDO in London, Judith's posts have included Private Secretary to the Minister of State responsible for relations with Asia and Head of Nuclear Policy Section in Non-Proliferation Department. She has also had overseas postings in New Delhi and Canberra.
Judith has a law degree from St John's College, Cambridge. She attended Howell's School, Denbigh, Denbighshire, Wales in the UK.

SPEAKERS' PROFILES: **PLENARY**

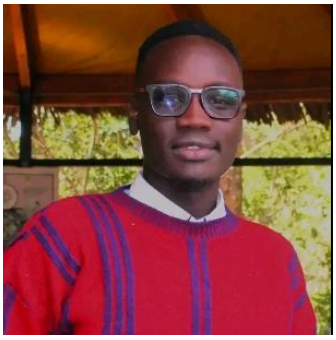
PROF. TANNECIA STEPHENSON

Co-Director of the Climate Studies Group, Mona and Deputy Dean in the Faculty of Science and Technology at The University of the West Indies, Mona Campus.

Prof. Tannecia Stephenson is co-Director of the Climate Studies Group, Mona and Deputy Dean in the Faculty of Science and Technology at The University of the West Indies, Mona Campus in Jamaica. Her research interests are Caribbean climate variability and change, climate extremes and statistical modelling. She has published over 80 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 was also a lead author on Chapter 10 "Linking global to regional climate change" and a contributing author on Chapter 12 "Climate Change Information for Regional Impact and for Risk Assessment and on the Atlas Chapter for the Working Group 1 Contribution to the IPCC Sixth Assessment Report. Author on the Special Report on 1.5 Degrees of the Intergovernmental Panel on Climate Change (IPCC), a Silver Musgrave Awardee for Science (2013), and the 2019 ANSA Caribbean Laureate for Excellence in Science. In 2021 he was named amongst Apolitical's 100 Most Influential Academics in Government globally. Most recently, he authored a chapter in Greta Thunberg's The Climate Book. Prof. Taylor was recently appointed as a TWAS Fellow (effective January 1, 2024).

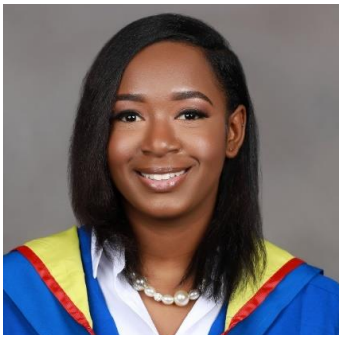
AJANI ALLEYNE

Ajani Alleyne is a Research and Development Officer employed to the Climate Change Division of the Ministry of Economic Growth and Job Creation. His journey in this vital field began over six years ago over which he has cultivated a profound understanding of the complex dynamics underpinning environmental challenges and their global implications. Ajani holds a Bachelor's degree and a Master's degree in international relations, which have equipped him with the analytical skills and global perspective necessary to navigate the intricacies of climate policy and international cooperation.



GERALD NYANJUA AMOLO

Gerald Nyanjua Amolo is a practicing Landscape Architect and the Founder of Apex Designs and Consultants, an architectural firm known for its innovative and sustainable design solutions, with a passion for creating harmonious environments that blend functionality with aesthetics.
As a Poet and a writer, Gerald channels his creative energy into crafting and penning thought provoking words that inspire and challenge its readers. Gerald is a writer for Afrospatial Magazine. His literary pursuits has complement his professional work, offering a unique perspective that enriches both his designs, as Architect Frank Lloyd Wright put it, "Every great Architect is Necessarily a Great Poet."



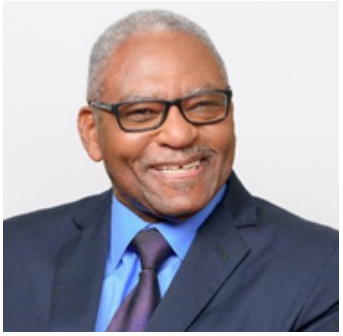
GINELLE BROWN

Ms. Ginelle Brown has a background in Marine biology. She graduated from the University of the West Indies with a Bachelor of Science in Marine Biology and a minor in Terrestrial and Freshwater Ecology. Currently Ms. Brown serves as a Coastal Environmental Officer at the National Environment and Planning Agency.

Beyond academic achievements she is an advanced open water scuba diver, adding a hands-on perspective to environmental conservation. She has been a part of research carried out around Jamaica on topics including water quality, mangrove restoration and coral reef surveys. with the analytical skills and global perspective necessary to navigate the intricacies of climate policy and international cooperation.

DR NICOLE CAMERON

Nicole Cameron is a media and communications scholar at the University of Technology, Jamaica. Her research interests and publications, among others, are in media effects, health and risk communication, and the use of digital media in education. She has published in both local international high impact journals and has presented her work at various conference across the world. She currently serves as the Graduate Studies, Research and Entrepreneurship Coordinator in the Faculty of Education and Liberal Studies. Dr Cameron holds a PhD and MA in Communication from the Washington State University and the University of the West Indies, Mona Campus respectively.



VALENTINE ALPHONSO FAGAN

BSC, MSC(ENG.), P.E

Registered Professional Engineer
Member Jamaica Institute of Engineers

Mr. Valentine Alphonso Fagan BSc, MSc(Eng.), P.E., is a Registered Professional Engineer and Member Jamaica Institute of Engineers. Since 2014 to present he has been working as a Power System Consultant at Office of Utilities Regulations. Between 1976 and 2013 he held various posts at the Jamaica Public Service Company Limited, including: Generation and Transmission Planning Engineer; Manager, System Planning; Power System Consultant; General Manager Central Planning & Maintenance; and Vice President Generation Division, Mr. Fagan has worked as a consultant with the Caribbean Development Bank (CDB), Barbados Power System Consultant

CHEVAUGHN GIBSON

Chevaughn Gibson is a devoted Christian who is currently employed as a Programmer Analyst, where he designs, implements and maintains software systems. He completed BSc in Computer Science Degree and is currently pursuing a MSc in Information Systems Management at the University of Technology, Jamaica. Engineer; Manager, System Planning; Power System Consultant; General Manager Central Planning & Maintenance; and Vice President Generation Division, Mr. Fagan has worked as a consultant with the Caribbean Development Bank (CDB), Barbados Power System Consultant

DAVID WALKER

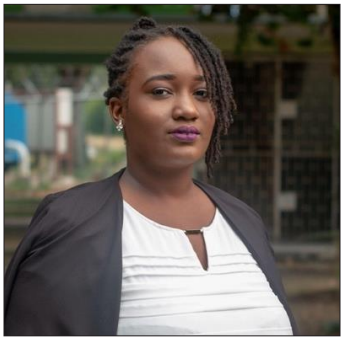
David Walker is an aspiring graduate of the University of Technology, Jamaica. Raised in the quiet community of Pembroke Hall, he developed a love for computers and meteorology from a young age. After graduating from Meadowbrook High School he embarked on a career in Computer Science. With his core values and expertise he hopes to make meaningful contributions locally and internationally through the development and implementation of advanced technologies.

DR DAVID WHITE

Dr David White is the Head of the School of Computing and Information Technology at the University of Technology, Jamaica.

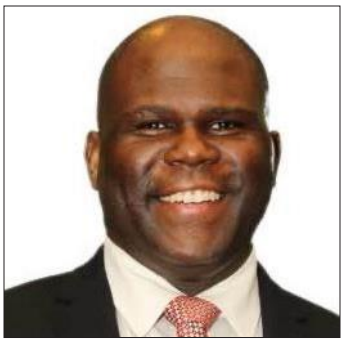
CHRISTOPHER PANTHER

Christopher Panther is a computer programming teacher known for caring about the outcome of his students. With a background in adult education, he has 11 years of experience in teaching computer programming. He is passionate about serving God, his country, and his students. Christopher is also a devoted father of two, husband, and Bible teacher.



DAHVIA HYLTON

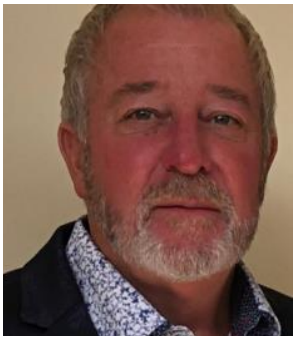
Dahvia Hylton is an educator and an activist having studied Linguistics and Language Education at the University of the West Indies while advocating for the rights of women and girls through her work with the I'm Glad I'm a Girl Foundation where she provided mentorship and care to over 160 girls from vulnerable communities. She currently serves as the President of the Jamaica Climate Change Youth Council, where she advocates for Climate Justice, applying an intersectional approach in fighting for an equitable future for all. She has served in the 1st cohort of civil society representatives in the Open Government Partnership in Jamaica. She has represented the issues of youth, women, and climate at national, regional, and international levels.
Her most recent publication with a team of fellow climate advocates and through the support of the International Organization for Migration, focuses on Climate Smart Development for Internal Migration and Urbanization in Jamaica.



JERROLD J JOHNSON

Co-Founder, E-Z Block Manufacturing Jamaica Ltd.

Jerrold Johnson is a visionary leader with experience across international finance, telecommunications, business development, and manufacturing. He co-founded E-Z Block Manufacturing Jamaica Ltd. and Evolution ICF Group Ltd., offering a next-generation, eco-friendly building product made from lightweight aerated concrete. The E-Z Block Building System delivers homes that are Cooler, Quieter, Faster, and Stronger, addressing Jamaica's need for affordable, climate-resilient housing. Jerrold is passionate about bringing sustainable, climate-resilient homes to Jamaica and the wider Caribbean.



DALE MERRILL

Co-Founder, E-Z Block Manufacturing Jamaica Ltd.

With over 45 years of construction experience across three countries, Dale Merrill is a Co-Founder of E-Z Block Manufacturing Jamaica Ltd. and Evolution ICF Group Ltd. He trains Certified E-Z Block installers and ensures high standards for E-Z Block projects throughout Jamaica. The E-Z Block Building System provides a competitive edge by delivering homes that are Cooler, Quieter, Faster, and Stronger, addressing Jamaica's affordable housing needs. As an associate lecturer at UTech, he shares his expertise in sustainable construction, making him a valuable contributor to discussions on innovative building practices.

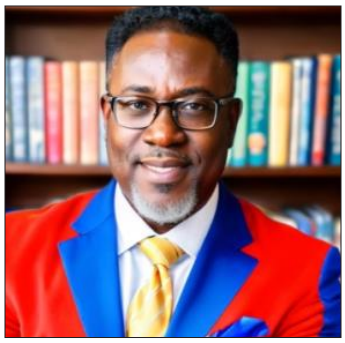
MONIQUE LEWIS

Monique Lewis is an Urban and Regional Planner at the Planning Institute of Jamaica (PIOJ), where she contributes to the development of key policies, projects and strategies that guide the sustainable development in Jamaica. She holds a Master's degree in Urban Development and Policy from Seoul, South Korea, with a focus on integrating modern urban solutions with environmental sustainability. During her time in Seoul she honed her expertise in sustainable cities, smart urban solutions, and resilient infrastructure. She enjoys exploring Jamaica's natural landscapes and gathering inspiration from the environments she is dedicated to protecting.

DR. NING LIU

A key figure in the presidential initiative launched by French President Jacques Chirac, '150 Chinese Architects in France,' Dr. Ning LIU is a graduated architect from INSA Strasbourg after her studies in Tongji University in Shanghai and holds a PhD from the Swiss Federal Institute of Technology in Lausanne (EPFL). She's the founding partner of Building For Climate, based in Paris and in Shanghai. Building For Climate's innovative research and practice focus on integrating environmental and socio-cultural dimensions to shape a new, more sustainable urban landscape.

Dr. Ning LIU has been a visiting academic at African Centre for Cities at Cape Town University (UCT) in South Africa and a guest lecturer at South-East University in China for international master program and doctoral school in heritage protection and community engagement. She leads teaching and building projects in France, China, Morocco, Burkina Faso, and South Africa, and delivers lectures worldwide on cultural inclusion and heritage education at venues such as Musée du Quai Branly – EHESS, Nejjarine Museum in the Medina of Fez, Canal City Museum in Yangzhou, China etc.. As elected board member of ICOMOS France, she is an expert in promoting the revitalization of city centres and developing climate-resilient urban strategies that emphasize strong community participation.



DWAYNE O. PEART

Dwayne Peart is an Operation Engineer at Jamaica Public Service Company with over 17 years of experience in optimizing energy infrastructure. He holds a Master's degree in Renewable Energy Management from The University of the West Indies (2023), which equips him with expertise in sustainable energy policy and renewable technologies. His work focuses on improving operational efficiency, integrating renewable energy into traditional systems, and supporting Jamaica's energy strategy. Throughout his career, he has held key roles in transmission line maintenance, substation testing, and engineering solutions, contributing to a more resilient and sustainable energy future for Jamaica.

PROFESSOR THERESE CHAMBERS

P.E., C.E.M.

Professor Therese Chambers lectures at the University of Technology, Jamaica in the Electrical Programme of the School of Engineering and is a Professional Engineer with extensive experience in academia, research, and industry. Her career has been dedicated to advancing the fields of electrical energy and power engineering, particularly in the areas of renewable energy and sustainable solutions.

Prof. Chambers holds a Ph.D. in Electrical Energy and Power Systems from the University of Manchester, UK. Her research portfolio spans a wide range of topics, including: Renewable energy integration, Energy storage, Power system analysis, Energy efficiency and conservation, Sustainable energy development.

DR KIRKLAND ROWE

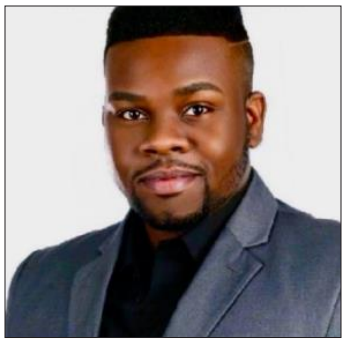
Kirkland Rowe is a Senior Lecturer in Mechanical Engineering at the University of Technology, Jamaica, with a PhD, MPhil, and BEng in Mechanical Engineering. He is an AEE-Certified Energy Manager, Professional Engineer, and Energy Consultant. Specializing in energy systems, efficiency, and sustainable development, Kirkland has published numerous peer-reviewed articles and conference papers. He actively participates in training sessions promoting sustainability, energy conservation, and management. His research focuses on energy policy, refrigeration, air conditioning, and optimising integrated energy systems.

ROSHNI SHARMA

Director, board of the Geospatial Council of Australia (GCA) and the NSW Board of Surveying and Spatial Information (BOSSI)

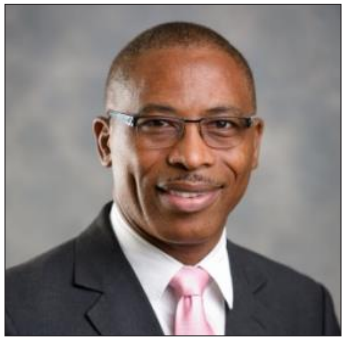
Having traversed environmental science and management, human geography, palaeoclimatology and business studies, Roshni is a thought leader, a compassionate disruptor, a connector and someone who gets things done. She is making it her life's work to harness geospatial science as well as leadership coaching to create hope for a sustainable and united future for the planet. She is passionate about diversity and inclusion, climate action and tech ethics. Roshni loves dogs (but not cats), experimental cooking, and reads copiously at every opportunity.

Roshni is recognised by Geospatial World as one of 2022's 50 Rising Stars, and was one of 86 women leaders in STEM from around the world who voyaged to Antarctica for a month in November 2023 as part of the Homeward Bound Program. She is a director on the board of the Geospatial Council of Australia (GCA) and the NSW Board of Surveying and Spatial Information (BOSSI). Roshni is also a tertiary-qualified leadership development and coaching professional, and runs Revitalise Coaching to help people connect with their purpose and live intentionally in alignment with it.



ROLANDO ANGELO SMITH

Rolando Angelo Smith is a seasoned Communications and Academic Literacies lecturer with over a decade of experience in education and media. He holds a MA in Communication Studies from the University of the West Indies and a Postgraduate Diploma in Education. His research work, includes studies on media education and the socio-economic realities of sugar-dependent communities in Jamaica. He is also a playwright, producer, and voice-over talent, deeply involved in community and educational development. With a passion for communication for social and behaviour change, Rolando remains committed to shaping the next generation of media professionals.
Rolando has played pivotal roles as a lecturer, coordinator, and event producer, contributing to several academic and creative initiatives.
With a passion for academic literacy, curriculum design, social media, and communication for social and behaviour change, Rolando remains committed to shaping the next generation of media professionals and educators.



PROFESSOR GARFIELD YOUNG

PhD in Geomatics, University of Nottingham,

Professor Garfield Young has three decades of experience in higher education teaching and academic management, he has built an extensive portfolio of pedagogical innovations and research in geomatics and professional education for built environment courses. He has led consultancies and special projects related to built environment issues and sustainable development. He served for two terms as Dean of the Faculty of the Built Environment at UTech, Jamaica.

Prof. Young has a PhD in Geomatics from the University of Nottingham, a Master of Engineering Science in Surveying & GIS from the University of New South Wales, Australia; and undergraduate qualifications from UTech, Jamaica and UWI.
He is a director on multiple boards and is the recipient of the UTech President's Award for instructional excellence and the Land Surveyors Association of Jamaica's Special Award for distinguished work in surveying education. He is a Commonwealth scholar, and the 2017 Jamaica All Island Boss of the Year.

ABSTRACTS

SUB-THEME 1:
Renewable Energy, Sustainable Technologies, Geospatial Sciences and Artificial Intelligence

PRESENTER: Valentine Fagan- Office of Utilities Regulation

TOPIC: Is Jamaica ready for 50% renewable energy by 2023? – A SWOT analysis of the electricity sector

ABSTRACT:
Imported fossil fuels account for over 88 percent of Jamaica's electricity production. This exacts high economic, social, and environmental costs, and is the largest source of pollutants and greenhouse gases(GHG).

The National Energy Policy mandates a renewable portfolio standard (RPS) of 50% of electricity from RE sources by 2030, aligning with reducing GHG emissions by transitioning to low-carbon energy sources to limit global warming.
This paper utilizes the SWOT analysis to critically analyse the status of the electricity sector and explores strategies and the state of readiness to utilize Jamaica's RE resources to achieve the RPS target.

The SWOT analysis has identified that Jamaica possesses good renewable resource potential, an emerging set of RE enabling policies, the proven ability to attract the requisite investment, but high electricity losses, and a lack of institutional capacity to develop and implement the requisite projects promptly are factors threatening this achievement.

The analysis has concluded that Jamaica will be hard-pressed to achieve the RPS target given the current implementation status of the earmarked projects, even with its good resource potential, the current high interest in RE integration, and improvements in RE technology coupled with reducing prices. It is recommended that to meet the RPS target a fundamental shift in implementation strategy is urgently needed.

Keywords : Renewable Portfolio Standard

PRESENTER: Dr. Kirkland Rowe – University of Technology, Jamaica

TOPIC: Bilevel Model for the Optimal Operation of Energy Hubs in Distributed Peer-To-Peer Framework in an Electricity/Gas Integrated Energy Network.

ABSTRACT:
The integration and interaction of multi-energy systems (MES), such as energy hubs, in energy networks provide a necessary pathway towards achieving a sustainable and resilient energy infrastructure. Policymakers and industry stakeholders can leverage these systems to transition towards sustainable energy infrastructures and build resilient power and energy systems capable of withstanding future climate change challenges. Optimising energy hubs provides a pathway for integrating renewable energy sources, reduces greenhouse gas emissions and encourages the sharing of energy in local energy markets. As a result, this paper proposes a bilevel stochastic mixed-integer linear programming (MILP) model for the optimal management of power-to-gas (P2G) energy hubs participating in a peer-to-peer (P2P) and day-ahead energy markets interconnected on integrated electricity-gas distribution networks. The upper level seeks schedule the energy hubs, where they operate strategically to minimise total operational costs by exchanging energy with each other and the distribution network. The lower-level problem represents the network operators' strategic behaviour to maximise profit by exchanging energy with the energy hubs in the day-ahead gas and electricity market subject to network constraints. The proposed model allows the energy hub to participate in the day-ahead natural gas and electricity markets while trading in the electricity P2P market. The model is transformed into a single-level model using the Karush-Kuhn-Tucker (KKT) optimality conditions. The proposed model is validated on an integrated 16-bus 33 kV UK generic distribution system (UKGDS) and a 6-node natural gas system, which is used to validate the effectiveness of the proposed model.

Keywords— Multi-carrier energy systems, energy hubs, integrated natural gas and electricity network, bilevel optimisation, peer-to-peer, energy trading, power-to-gas, energy storage

SUB-THEME 2:
Ecosystem Resilience and Conservation

PRESENTER: Ginelle Brown and Chanel Raynor- NEPA

TOPIC: Warming waves: An overview of Jamaica's sea surface temperature trends

ABSTRACT:
Under the European Union/United Nations Environmental Programme/Government of Jamaica Climate Change Adaptation and Disaster Risk Reduction Project (2013-2015), HOBOTM data loggers capable of recording sea surface temperature (SST) were installed around Jamaica, primarily within marine protected areas (MPAs). Twenty-seven devices were placed at eight locations where the National Environment and Planning Agency (NEPA) conducts long-term monitoring for coral reef health. The data revealed trends that underscore the increasing vulnerability of local coral ecosystems to rising ocean temperatures. Global studies note that the annual temperature tolerance for corals ranges between 21.7°C and 29.6°C. However, observations in Jamaica have identified a higher local tolerance threshold of 30°C, as temperatures exceeding 29.6°C have consistently not resulted in bleaching events. Since 2013, SSTs have generally ranged between 27.7°C and 30.0°C at the locations monitored, aligning with this locally established threshold. In 2019, SSTs at Discovery Bay and Portland Bight saw average annual temperatures exceeding 30°C for a prolonged period, correlating with significant coral bleaching events experienced regionally. In 2023, SSTs spiked again, reflecting global temperature records and leading to widespread bleaching of key reef-building species such as Acropora palmata and Acropora cervicornis in all marine protected areas island-wide. Notably, temperatures exceeding 30°C have been frequently observed annually from August to October.

These findings highlight the critical need for ongoing SST monitoring to effectively mitigate the impacts of climate change on coral reefs. Introducing adaptive conservation strategies, emphasizing the protection of heat-tolerant coral species, and reducing stress on corals during peak warming periods are essential steps in this effort. The study makes a strong argument for the preservation of coastal ecosystems such as mangroves and seagrasses, which are vital for carbon sequestration and mitigating SST rise. This research calls for localized, proactive measures to safeguard Jamaica's coral reefs in the face of escalating climate challenges.

Keywords: Sea surface temperature, climate change, coral bleaching, Jamaica

PRESENTER: Chevaughn G Gibson, Christopher Panther, David W. White , David Walker - University of Technology, Jamaica

TOPIC: A Proof of Concept: Soil Moisture Monitoring and Forecasting Wireless Sensor Network for use in the Agricultural and Water Resources Industry in Jamaica

ABSTRACT:
Jamaica has faced recurring droughts for decades, yet drought monitoring remains underexplored in developing nations. This mixed-method study evaluated the perceived usefulness of a proof-of-concept Soil Moisture Monitoring Wireless Sensor Network (SMMWSN) for monitoring drought conditions in Jamaica and assessed the precision and accuracy of the low-cost Stemedu ST3107X5 soil moisture sensor across three soil types. Qualitative data from three semi-structured interviews with key stakeholders were analyzed using thematic analysis. Quantitative data from a controlled laboratory experiment were analyzed using descriptive statistics, correlation, regression, and data visualization. Interviews indicated that while the SMMWSN may provide valuable information, its effectiveness could be improved with additional data points. Lab results showed precision varied by soil type, with loamy soil having a Coefficient of Variance (CV) of 7% and clay 25%. Root Mean Square Error (RMSE) ranged from 0.2209 m^3/m^3 in loam to 0.4362 m^3/m^3 in clay, and R Square (R^2) values from 0.6707 in loam to 0.8103 in clay. Findings suggest enhancing the system's effectiveness by increasing monitored factors and using more reliable data collection tools.

Keywords: Drought, Soil Moisture, Wireless Sensor Network, Arduino, Agriculture

SUB-THEME 2:
Ecosystem Resilience and Conservation

PRESENTER: Nicole O Cameron & Ronaldo Smith - University of Technology, Jamaica

TOPIC: Farmers in Small Island Developing States Perceptions of Climate Change and Adaptation After a Significant Climate Event: Implications for Risk Communication

ABSTRACT:
In July 2024, Hurricane Beryl barrelled across the Caribbean leaving in its wake devastating effects, especially in the agricultural sector, presenting foreboding omens for food security and livelihoods. Small island developing states such as Jamaica, are especially susceptible due to the uncertainties caused by the current and escalating climate crisis. The effects of unpredictable climate and weather patterns including extreme hazards such as super hurricanes, floods, and droughts on the agricultural landscape are particularly concerning since these states are already grappling with the realities of sluggish economies and geographic vulnerabilities. This has led governments and other stakeholders to continually seek better ways of communicating scientific, and oftentimes, inaccessible information to farmers. Traditional agricultural practices, deep-seated cultural beliefs and practices, and economic barriers to investing in adaptable technologies and strategies are prevalent and continue to influence decision-making in this crucial area. The purpose of this study, therefore, is to understand how relevant stakeholders can better communicate climate change risks to farmers in small island developing states, towards better adaptation of sustainable agricultural practices and strategies. Using a phenomenological approach the factors that facilitate and prevent adaptation will be explored. Through in-depth interviews with farmers from across Jamaica, their understanding of the threats of climate change after experiencing a significant climate event will be investigated. The paper will discuss the implications for how governments and other key stakeholders can communicate risks for effective, sustainable, and culturally sensitive agricultural practices.

Keywords: Risk communication, climate change, phenomenology, small island developing states, agricultural adaptation

SUB-THEME 3:
Urban Resilience and Infrastructure Development

PRESENTER: Monique Lewis - Planning Institute of Jamaica

TOPIC: Integrating green infrastructure for a resilient Kingston Metropolitan Area: Mitigating urban heat and flood risks

ABSTRACT:
A Small Island Developing State (SIDS), Jamaica is located in the Atlantic hurricane belt, and is vulnerable to environmental and economic shocks as well as other SIDS-related challenges namely rapid urbanization, climate vulnerability, and environmental degradation. As Jamaica continues to face increased urbanization, with its urban population growing from 54% in 2011 to a projected 60% by 2030, the cities and major towns are expanding. Simultaneously, climate models predict that Jamaica will experience a 0.86°C to 1.10°C increase in average annual temperatures by the 2050s. There is a critical need for innovative tools and strategies to mitigate the adverse effects of extreme urban heat and increased flood risks, ensuring a more resilient and sustainable future for the city. This necessitates an urgent shift toward green infrastructure as a sustainable approach to urban planning. This paper explores the integration of green infrastructure (GI) and sustainable building technologies in the urban environment of the Kingston Metropolitan Area (KMA) as a means of mitigating two primary issues that arise from the dual challenges of urbanization and climate change: urban heat and urban flood risks. The findings will examine green infrastructure practices, highlight the barriers and opportunities for their expansion, and provide insights into the role of sustainable building technologies in enhancing climate resilience in urban areas. The paper makes recommendations for the placement of GI such as green roofs, permeable pavements, retention ponds, and urban forests. Lastly, this paper builds upon previous studies and supports the mainstreaming of GI planning within the KMA

PRESENTER: Gerald Nyanjua Amolo - Landscape Architect, Nairobi, Kenya

TOPIC: Global development in the age of climate displacement

ABSTRACT:
In recent decades and due to the climate change impacts such as global warming, the climate of cities is more susceptible to what has been termed as climate departure, which is the irreversible change of climates. This abstract relates to the concept of adaptation and management measures hence its emphasis on the issue of urban resilience and infrastructure systems. In this regard, urban areas are subjected to severe threats such as floods, hurricanes, and storm surges, sea-level rise, and heat waves. These challenges pose a possible risk of dismantling the existing structures and destabilizing the socio-economic fabric of urban societies.
This article will discuss topics on engineering cities that are capable of withstanding and rebounding from the unpredictable consequences of climate departure. It stresses the centrality of climate-responsive solutions into urban design and infrastructural planning. Importance is placed on ways to engage the diverse sectors, technology use and the community to develop shock-responsive infrastructure when baseline environmental conditions change.

This abstract, and the case studies and best practices it outlines, stress that updating urban infrastructure is imperative not only to address the effects of climate change but also to future proof cities to perform optimally in this new climatic environment. It will assist policy makers, urban planners as well as climate activists on the possible ways and means for achieving sustainable, equitable, and climate resilient future in the context of climate departure

Keywords : Climate Change, Urban Resilience, Urban Infrastructure.

ABSTRACTS

SUB-THEME 3:
Urban Resilience and Infrastructure Development

PRESENTERS: Jerrold J Johnson & Dale Merill - EZ Blocks Manufacturing Jamaica Ltd.

TOPIC: E-Z Block: Revolutionizing Caribbean Construction for Climate Resilience and Sustainability E-Z Block: Revolutionizing Caribbean Construction for Climate Resilience and Sustainability

ABSTRACT:
As Caribbean nations face increasing climate risks, the need for resilient and sustainable construction methods has never been more critical. E-Z Block, an innovative cellular lightweight concrete solution, presents a transformative approach to building in the region. This research explores the application of E-Z Block technology within the context of urban resilience and infrastructure development, aligning with Sub-Theme 3 of the conference. E- Z Block is designed to meet the demands of modern construction by being cooler, quieter, faster, stronger, and more cost-effective than traditional materials. The study focuses on its benefits in reducing energy consumption, minimizing noise pollution, and enhancing structural integrity, making it an ideal choice for climate-resilient infrastructure. Furthermore, the use of E-Z Block significantly shortens construction time while lowering overall costs, making it accessible for low to middle-income housing projects in Jamaica. The findings contribute to the broader discourse on sustainable construction technologies in Small Island Developing States (SIDS), offering practical solutions to enhance climate resilience across the Caribbean.

Keywords: Climate Resilience, Sustainable Construction, E-Z Block, Urban Infrastructure, Caribbean, SIDS, Affordable Housing

PRESENTERS: Dwayne O Peart & Therese Chambers - University of the West Indies

TOPIC: District cooling in Kingston Jamaica. Viability and implementation recommendations

ABSTRACT:
Jamaica's approximate latitude and longitude coordinates are 18o north and 77o west. This location has placed us in a region where most days are at temperatures where air cooling is required in commercial and other office spaces. Within the Kingston Metropolitan Region, these office spaces are located near industrial entities.
Energy efficiency and sustainability as well as a reduction in carbon footprint, may be significantly increased by recovering and utilizing energy that is currently being wasted through various means in industrial processes. Countries like Jamaica with hot climates usually have large cooling demands where, by leveraging local excess waste heat via absorption chillers, cooling can be generated for use as air conditioning. In connecting wasted heat and cold energy with customers demanding cooling, a significant investment in a district cooling grid may be necessary. To demonstrate the viability of district cooling (DC), a small commercial district sample size was chosen for a case study, and two alternative options were explored. Option 1 included the use of an absorption chiller along with cooling towers. With an estimated minimum applicable rate of return of 20%, this small district may yield an Internal Rate of Return (IRR) of 28.26%. Option 2 included the use of an ice storage and a cooling tower system. This significantly increased the sample size's capital expense. However, the more cooling demand there is the more benefits there may be from installing cooling towers, which may further lower Kingston, Jamaica's energy demand and steadily raise the effectiveness of the nation's energy delivery.

Keywords: District cooling, absorption chillers; energy efficiency, sustainable energy, waste energy, thermal energy storage.

SUB-THEME 4:
Climate Cooperation, Legal and Finance

PRESENTERS: Ajani Alleyne, Eleanor Terrelonge, Sharisa Buckle - Ministry of Economic Growth & Job Creation - Climate Division

TOPIC: Jamaica's pathway to innovative climate finance mechanisms

ABSTRACT:
The effects of climate change have had significant economic impacts on Jamaica. It threatens to negatively impact the economic progress being made. Jamaica's economic risk to natural disasters such as tropical cyclones and floods has averaged J$17 billion annually or 0.8% of GDP in 2020. With Jamaica's current temperatures slated to increase significantly, the economic risk will increase to at least 22.7% of GDP ("Socio-economic and Financial Implications Assessment of Climate Change on Jamaica", 2022). Therefore, Small Island Developing States (SIDS) must prioritize climate resilience and encourage the reduction of greenhouse gases to mitigate the future economic impacts of climate change.
For the period 2030-2050, Jamaica's estimated costs for mitigation and adaptation will be approximately USD 5 billion and USD 1 billion respectively (Government of Jamaica, 2023). Meeting these obligations will require mobilizing various climate finance sources: international and domestic public sources, and private finance from domestic or international companies. However, the bulk of funds currently available originate from the contributions of developed countries. There are certain factors that increase the difficulty for Jamaica in accessing traditional avenues of climate finance, highlighting the need to explore more innovative climate finance options. These include Jamaica's economic status within the global community shifting to "middle-income" ("ODA recipients: countries, territories, and international organisations", n.d.), and a reduction in the volume of funds contributed by developed countries.
This paper utilizes a desk review to examine traditional sources of climate financing, such as multilateral/ bilateral arrangements and international institutions (e.g. Green Climate Fund (GCF), Global Environment Facility (GEF), etc.) and the challenges faced, and lessons learnt by Jamaica in accessing these avenues of climate finance. Additionally, this paper will examine innovative climate finance mechanisms (e.g. Green Bonds and debt swaps) that can assist Jamaica in its efforts to build resilience, reduce greenhouse gases, and meet its climate commitments.

Keywords: Climate financing, resilience

ABSTRACTS

SUB-THEME 5:
Policy, Social Equity, Justice and Poverty Alleviation

PRESENTER: Dahvia Hylton - Jamaica Climate Change Youth Council

TOPIC: Climate mitigation policy paper

ABSTRACT:
The paper will focus on a Policy Brief that :

1. Examines the impact of climate change on Jamaica's population focusing on mobility patterns and calls for a greater understanding of the drivers and impacts of internal migration. There is a need to understand internal migration patterns to ensure planning for the development of climate-resilient communities to support the shifts in migration is done effectively.

2. Examines the dual nature but complex nature of migration and calls for focus on the less popular but growing issue of migration out of cities to rural and peri-urban areas while ensuring that the well-documented migration into cities from either rural agricultural areas or coast communities occurs in ways that acknowledge current climate sensitivities in Jamaica.

3. Makes the case for institutionalizing climate change response policies and programs across multiple sectors with a data-driven focus on internal migration to ensure that the development of new urban centers follows the principles of just and equitable climate-smart development practices and to strengthen climate resilience in existing urban spaces.

Keywords : Climate resilience, climate-smart

PRESENTER: Dr. Ning LIU – Architect

TOPIC: Social equity and youth's participation, connecting Jamaican community sport facility development to Paris 2024 Olympic Game Heritage

ABSTRACT:
Initiated by Building For Climate (Paris, France) in collaboration with the Caribbean School of Architecture (CSA) at the University of Technology (UTECH, Kingston, Jamaica), and financially supported by the French Ministry of Foreign Affairs and the French Embassy in Jamaica, the Design and Build workshop project – a Climate-Resilient Sport Pavilion in Boston Bay introduces an innovative approach to fostering community engagement with academia and youth. This initiative combines local and international pedagogical and technical expertise to enhance learning and participation. It also pays tribute to the 2024 Paris Summer Olympic Games, celebrating Olympic legacy – its remarkable achievements in athletics, and also its growing success in emerging urban sports like BMX, skateboarding, and basketball.
Following successful community design projects with universities in South Africa, China, and the Indian Ocean, Building For Climate is now collaborating with students from UTECH and youth from the local community of Boston and Bull Bay. The project will benefit from the research support of both Université Paris-Cité and UTECH.
This initiative aims to raise awareness of the impact of climate change on the design of sports and cultural spaces, emphasizing significant involvement from local youth. The climate-resilient project serves as a prime example of how academia can contribute to community development and climate change mitigation through an inclusive, participatory model of international collaboration on climate issues.

Keywords : Climate resilience; sports and cultural spaces

SUB-THEME 6:
Climate Change Education and Capacity Building in Geospatial Sciences

PRESENTER: Prof. Garfield Young, FOBE, UTech, Ja

TOPIC: Bolstering HE to strengthen Caribbean climate resilience – The bi-lingual TOOC (bTOOC) approach

ABSTRACT: Following an in-depth assessment of Caribbean-based urban planning courses and professional practice in climate resilient urban planning, a bilingual Tailored Open Online Course (bTOOC) was designed and implemented to enhance urban planning knowledge for building climate resilient urban areas in the Caribbean. The 45-hour course was offered over five weeks by the University of Technology, Jamaica to participants drawn from the Anglophone and Francophone Caribbean. A central purpose of the course was to equip participants with the confidence, knowledge, and tools to make a positive contribution towards climate resilience.
The course was tailored to account for a region with diversity across islands in terms of topography, hazards, population densities, and different urban geographies. The bTOOC aimed to offer high-quality teaching in integrating climate change into urban planning activities across the Caribbean, incorporating state-of-the-art knowledge regarding the mitigation and management of climate risks in urban areas. Participating universities, communities and technical experts were consulted and engaged throughout the pilot course development, to empower future leaders and current officials to more effectively address climate risks and vulnerabilities in their respective areas of work. The course was successfully delivered fully online, allowing participants to self-pace and access material in an asynchronous manner. Additionally, the bTOOC aimed to elevate social equity considerations, and in doing so specifically sought to support enrolment of more diverse participants ensuring, for example, gender equity.
The paper focuses on the results from the needs assessment, the course structure and the impact of the course based on a survey of the 45 active participants. The expectation is that the key role of multi-lingual education in meeting climate mitigation targets in the development of Caribbean cities, will be highlighted and promoted.

Keywords : Higher Education, Climate Resilience, Tailored Bi-lingual Education

PRESENTER: Roshni Sharma - Co-chair of the Climate Compass Task Force with the International Federation of Surveyors (FIG).

TOPIC: Geospatial Data in Climate Change Monitoring

ABSTRACT:
In the context of climate change, effective adaptation and mitigation strategies must navigate the complexities inherent in climate systems. This presentation employs the Cynefin model of complexity to highlight the importance of contextual understanding in developing methodologies for climate crisis management. By recognizing the various domains of complexity—clear, complicated, complex, chaotic, and aporetic—stakeholders can better tailor their responses to the unique challenges posed by climate change. This approach emphasizes the need for adaptive strategies that account for uncertainty and dynamic interactions within environmental systems. A brief discussion on the application of earth observation imagery and open data cube technologies will illustrate how these tools can support the monitoring of climate impacts within this complex framework.

Keywords: Cynefin Model; Climate impact