THE CARIBBEAN ACADEMY OF SCIENCES (CAS)
REGIONAL EXECUTIVE
2024 GRADUATE STUDENT WEBINAR SERIES

🕓 **Date/Time: July 26th, 2024 at 2:00 PM (Trinidad & Tobago Time)**

🔗**Platform: Zoom (Virtual Only)**

🔗**Registration Links:**
Ms. Leneka Rhoden:
https://docs.google.com/forms/d/e/1FAIpQLSduFDprpKwCADoK0fW7HVic3vJ4X6jZ67_VBGEhXAQ8RtGvVg/viewform?usp=sharing

Ms. Katherine Agong:
https://docs.google.com/forms/d/e/1FAIpQLScEwAzRVFReQ6d9TeSMInoP6Fh0y74FERPsG0pKN6ViGl8TOw/viewform?usp=sharing

🔗**Evaluation Links:**
Ms. Leneka Rhoden:
https://docs.google.com/forms/d/e/1FAIpQLSduFDprpKwCADoK0fW7HVic3vJ4X6jZ67_VBGEhXAQ8RtGvVg/viewform?usp=sharing

Ms. Katherine Agong:
https://docs.google.com/forms/d/e/1FAIpQLSebPKdQj9PAcgQqpoS87x2yM2axCcT8zMnT-QbmxNIsTeYMyQ/viewform?usp=sharing

🔗**Zoom Credentials:**
https://sta-uwi-edu.zoom.us/j/96987460021?pwd=Ue3a0apWt7wxgnW5nfuPSsZRhgIz8B.1

🔗**Meeting ID:** 969 8746 0021

🔗**Passcode:** 443923

PROGRAMME

02:00 - 02:15 pm - Opening Remarks
Prof. Mark Wuddivira (President, CAS Regional Executive)

02:16 - 02:45 pm - Graduate Student Presentation (1):
Leveraging Sargassum-Derived Essential Oils for BBNJ: Enhancing Conservation and Sustainable Use of Ocean Resources
Leneka Rhoden
The University of the West Indies, Mona, Jamaica

02:46 - 03:15 pm - Discussion / Question & Answer

03:16 - 03:45 pm - Graduate Student Presentation (2):
Assessing Informal First and Last Mile Transport in Trinidad's Transport Deficient Communities
Katherine Agong
The University of the West Indies, St. Augustine, Trinidad.

03:46 - 04:15 pm - Discussion / Question & Answer

04:16 - 4:30 pm - Closing Remarks

THE CARIBBEAN ACADEMY OF SCIENCES (CAS) REGIONAL EXECUTIVE

Graduate Student Webinar Series

Leveraging Sargassum-Derived Essential Oils for BBNJ: Enhancing Conservation and Sustainable Use of Ocean Resources

TOPIC:
CAS GRADUATE STUDENT WEBINAR SERIES-
MS. LENEKA RHODEN

DAY/TIME:
JULY 26TH, 2024, 2:00 PM

HTTPS://STA-UWI-EDU.ZOOM.US/J/96987460021?PWD=UE3A0APWT7WXGNW5NFUPSSZRHGIZ8B.1

Presenter:
Leneka Rhoden

The University of the West Indies (UWI), Mona, Jamaica.

LEVERAGING SARGASSUM-DERIVED ESSENTIAL OILS FOR BBNJ: ENHANCING CONSERVATION AND SUSTAINABLE USE OF OCEAN RESOURCES

LENEKA RHODEN

THE UNIVERSITY OF THE WEST INDIES, MONA, JAMAICA.

Abstract:
Given the global nature of Sargassum blooms, addressing its management and utilization falls under the broader framework of Biodiversity Beyond National Jurisdiction (BBNJ). BBNJ aims to promote sustainable use and conservation of marine biodiversity in areas beyond national jurisdictions, which is critical for maintaining the health of our oceans. This research explores the potential of essential oils derived from Sargassum to contribute to marine conservation and the BBNJ. By analyzing the chemical composition and applications of essential oils extracted using hexane and dichloromethane (DCM) solvents, the presence of key compounds such as eugenol, limonene, aR-turmerone, and various fatty acids including hexadecanoic and tetradecanoic acids is highlighted. These compounds exhibit significant antimicrobial, anti-inflammatory, and insect-repellent properties, which can be harnessed for conservation efforts.
The methodology involved solvent extraction of Sargassum followed by Gas Chromatography-Mass Spectrometry (GC-MS) analysis to identify and quantify the chemical constituents. The findings reveal a diverse array of bioactive compounds with consistent presence across different extraction solvents, indicating their stable presence in the marine samples such as eugenol with a retention time (RT) of 7.173, a quality score of 98, and an area percentage of 7.37%. Limonene was identified at RT 4.214 with quality scores ranging from 91 to 98 and area percentages between 0.12% and 0.35%. The study demonstrates the potential for these natural compounds to mitigate human impacts on marine ecosystems, promote the health of marine biodiversity, and support the goals of the BBNJ framework.
The research focuses on how the sustainable extraction and use of these natural compounds can enhance marine protected areas (MPAs) and other conservation initiatives. Emphasis will be placed on eco-friendly practices and utilizing these compounds, examining their applications in marine conservation, health, and the blue economy.

Keywords: Sargassum, Essential Oils, Marine Conservation, Biodiversity Beyond National Jurisdiction (BBNJ), Eugenol, Limonene, aR-Turmerone, Hexadecanoic Acid (Palmitic Acid), Tetradecanoic Acid (Myristic Acid), Gas Chromatography-Mass Spectrometry (GC-MS)

Biography

Ms. Leneka Terika Rhoden, MPhil [pending], MBA, MPM, BSc (Hons)
Born and raised in Jamaica, Leneka holds a degree in Marine Biology and International Relations and an MPhil Candidate at the University of the West Indies, Mona. She has dedicated her efforts to integrating science, policy, and law to advise on ecosystem-based management for safeguarding marine ecosystems within and beyond national jurisdictions. She has worked with the Commonwealth Blue Charter to champion ocean conservation and has led dialogues with local NGOs on marine protected areas. Leneka has worked with Governments across the Caribbean and Africa to promulgate policy frameworks and guidelines on sustainable development and energy. Her work supports countries in achieving their climate goals by addressing data and institutional gaps in their existing Nationally Determined Contributions (NDCs). Leneka is an Advisory Board Member of the Deep-Ocean Stewardship Initiative (DOSI) and serves as the Caribbean Regional Campaign Lead for the Biodiversity Beyond National Jurisdiction (BBNJ) Treaty.

THE CARIBBEAN ACADEMY OF SCIENCES REGIONAL EXECUTIVE (CAS)

Graduate Student Webinar Series

Assessing Informal First and Last Mile Transport in Trinidad's Transport-Deficient

TOPIC:
CAS GRADUATE STUDENT WEBINAR SERIES-
MS. KATHERINE AGONG.

DAY/TIME:
JULY 26TH, 2024, 3:00 PM

HTTPS://STA-UWI-EDU.ZOOM.US/J/96987460021?PWD=UE3A0APWT7WXGNW5NFUPSSZRHGIZ8B.1

Presenter:

Katherine Agong

The University of the West Indies, St. Augustine, Trinidad.

ASSESSING INFORMAL FIRST AND LAST MILE TRANSPORT IN TRINIDAD'S TRANSPORT-DEFICIENT COMMUNITIES

KATHERINE AGONG
THE UNIVERSITY OF THE WEST INDIES, ST. AUGUSTINE, TRINIDAD.

Abstract

While several countries in the Global North are transforming their transport systems towards informal shared mobility, many in Trinidad depend on this mode to deal with Transport Deficiency (TD). TD refers to a situation where the transportation infrastructure and services are insufficient to accommodate the mobility needs and safety of the population. It is a complex phenomenon that is influenced by several factors, for instance, path-dependent transport policies caused by historical governance and infrastructure arrangements, land use patterns, culture, and transport behaviour. While related concepts like transport poverty and inequality refer to specific local areas, transport modes, individuals and specific groups, TD is a wider and nationwide phenomenon. Through a detailed analysis of existing literature, the research illuminates the role TD has in some informal transport services, particularly for the first mile and last mile of a journey. Transportation engineering and systems from the Global North offer limited insights into TD. The research introduces a TD framework examined in Trinidad and Tobago's current and historical transportation landscape. It is expected that the TD framework facilitates a better understanding of shared mobility in informal transport. In addition, the TD framework aims to enhance comprehension of road transport to craft tailored solutions to reduce TD.

Keywords: Transport Deficiency, Informal Shared Mobility, First Mile/Last Mile, Transportation Engineering, Informal Transport

Biography

Katherine Agong is a Transportation Planner and Transportation Engineer who helps public and private sector organisations by applying techniques for analysing and resolving traffic and transport problems. Katherine is a graduate of Edinburg Napier University where she attained a Master's degree in Transport Planning and Engineering. She is also a graduate of the University of the West Indies where she earned a BSc in Geography. She is a Chartered Transport Planning Professional (UK), a Fellow of the Chartered Institution of Highways and Transportation (UK), a registered Engineer with the Board of Engineering of Trinidad and Tobago and an Incorporated Engineer with the Engineering Council of the UK. Katherine has worked for 22 years in the sector. After a successful career being employed at major global engineering consultancies helping private sector clients (e.g. land developers, estate managers, universities, construction firms, hospitals) and public sector clients such as government organisations and local authorities, Katherine is now an independent consultant advising clients on how to plan for and mitigate traffic and transport impacts including permitted developments and event traffic management and control, public transport and parking. She is a PhD researcher in the fields of Transport Planning and Transport Engineering particularly public transport (shared mobility and travel behaviour). She is also a Research Assistant in the Department of Civil and Environmental Engineering of the University of the West Indies, St Augustine Campus. She is also on the Board of Directors of the National Planning Authority of Trinidad and Tobago and the Transport Expert on the Board. Katherine enjoys voluntary and advocacy work for persons with disabilities and specific disenfranchised communities, and she also enjoys the art of decorative design.