HARBOUR RESTORATION AND SUSTAINABILITY USING A CYBER-PHYSICAL APPROACH

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HARBOUR RESTORATION AND SUSTAINABILITY USING A CYBER-PHYSICAL APPROACH

• Work towards supporting the protection of the Caribbean marine environment through the implementation of MARPOL and other IMO conventions

• Support the development of a MARPOL Centre of Excellence at the Caribbean Maritime University

• Support the efforts of RAC/REMPEITC

• Participate in the development of regional waste reception facility plan

• Create large scale projects to address pollution in the Beach cleanups, school education projects, art contests, etc.
THE NINTH ORDINARY MEETING
OF THE RAC/REMPEITC-CARIBE STEERING COMMITTEE

WHO ARE WE?

Established in 1980 as
The Jamaica Maritime Institute, JMI....


4,000+ Students

250 Areas of Study

7 Campuses
OUR VISION

“The maritime university of choice for global leaders”

OUR MISSION

“Redefining maritime excellence through innovation and technology”
Kingston boasts the **seventh largest natural harbour in the world** and consists of an **almost landlocked area of water**, roughly ten miles long and two miles wide. Much of this water, even close to shore is deep.
Palisadoes (word apparently of Portuguese origin) is the thin tombolo of sand that serves as a natural protection for Kingston Harbour, Jamaica. Source: Wikipedia
ONE-OF-A-KIND SPORTING ACTIVITIES
CHEERLEADING, FENCING, ROWING
THE NINTH ORDINARY MEETING OF THE RAC/REMPEITC-CARIBE STEERING COMMITTEE

DEGREE PROGRAMS AND FACULTIES

Engineering and Applied Technology

This faculty spearheads engineering-led research-based academic activities geared towards a culture of applied research. It focuses on multidisciplinary growth areas that are globally relevant such as biotechnology, alternative energy, robotics, mechanical engineering, chemical engineering and electrical engineering. These programmes are accredited by the University Council of Jamaica (UCJ) and the Accreditation Service for International Schools, Colleges, and Universities (ASIC UK).

- Bachelor of Engineering in Industrial Systems
- Bachelor of Engineering in Mechatronics and Industrial Automation
- Bachelor of Science in Artificial Intelligence and Computer Systems
- Bachelor of Science in Marine Biotechnology
- Associate Degree in Industrial Systems

Tenets of Programme:
- Mandatory Six (6) week industry awareness internship for students
- Mandarin and Spanish are mandatory

Advanced Mobile Platform

Augmented Reality
GOAL: Industry Ready Professionals and Development of Industry 4.0 Manufacturing Process and Factory Automation

Robotics
Electronics/ Electrics
Mechatronics
Pneumatics
Hydraulics
Industry 4.0
Welding
Auto-tronics
CAD/CAM/CNC Machining
Implementing and Capacity Building Regional Harbour Restoration Projects
In a year, 2500 ships & vessels release ballast and wastewater directly into the harbor.

Domestic waste, sewage and run-off from >660 thousand citizens. Partially draining directly to the harbour. Because the treatment capacity is insufficient.

Drain industrial wastewater & chemicals which cause eutrophication.

Destruction of mountainside environment and ...Cannot provide moderate natural nutrition to the sea.
1. Improving the quality of water in Kingston Harbour by making use of Analytics, Robotics, Oyster and Mangrove “Power”

2. Creating awareness of marine diversity, ecosystem and sustainability

3. Thinking of industrial harmony

4. Inviting partners open widely in the society

5. Realizing a practical case of Blue Economy
Role of the regional consortium led by CMU

- Caribbean Maritime Institute became Caribbean Maritime University on September 28th, 2017 establishing several Faculties and Centres of Excellence during that transition.
- CMU and the Port Management Association of the Caribbean (PMAC) has partnered with Caribbean Disaster Emergency Management Agency (CDEMA) in January 2018, to assist in training and awareness in disaster management for CARICOM and non-CARICOM partners.
- CMU is a key partner for marine environmental issues and actions in the Caribbean.
- The consortium will provide an umbrella for engaging industry, regulators, governments, conservation groups, educators and more in protecting the marine environment.
- CMU will act as a focal point for the implementation of MARPOL and other IMO conventions in the Caribbean.
- CMU will build educational awareness for the general public about protecting the marine environment.
Potential Activities

• Work towards supporting the protection of the marine environment of the Caribbean through the effective implementation of MARPOL and other IMO conventions
• Support the development of a MARPOL Centre of Excellence at the Caribbean Maritime University
• Support the efforts of RAC/REMPEITC, IMO, U.N., NAMEPA, Partners
• Participate in the development of regional waste reception facility plan
• Create large scale projects to address pollution in the Beach cleanups, school education projects, art contests, etc.
Proposal for Consideration

This project will support the establishment of a named regional consortium for the establishment of a MARPOL Centre of Excellence at the CMU in Jamaica, and will provide awareness about MARPOL as well as provide professional skills to the people of the Caribbean and the wider diaspora in overcoming the current issues being faced, including but not limited to:

- Increase the use and health of the water and aquatic life in and around the Caribbean.
- Implementation of IMO conventions.
- Train a targeted amount of persons in MARPOL awareness, and other international areas of interest.
- Maintain viable and sustainable Harbour Revitalization Projects similar to New York and Baltimore Harbour throughout the Caribbean.
- Place emphasis on sustaining indigenous marine flora, fauna and other agricultural production in the Caribbean region.
- Support CDEMA in delivering local and regional training throughout the Caribbean.
- Revive the economic livelihood of communities across the participating small island developing states (SIDS).
- Develop innovative ideas for reclaiming or eliminating, sewage, waste and trash in our Caribbean water bodies.
- Educate Caribbean people in the region on the importance of supporting our ecosystems and livelihoods.
- Regional hub for data and other statistical information for MARPOL in the Caribbean.