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ST. AUGUSTINE CAMPUS
FACULTY OF FOOD AND AGRICULTURE

The Caribbean Academy of Sciences

International Science Council
The global voice for science

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THE QUESTION OF AUTONOMY: SCIENCE COMMUNITIES AND THE STATE

Keynote Presenter: *Professor Mark Wuddivira, Dean UWI-FFA and President Caribbean Academy of Sciences*

SCIENCE AN RESEARCH

Science is a systematic enterprise that seeks to understand the natural world through observation, experimentation, and logical reasoning.

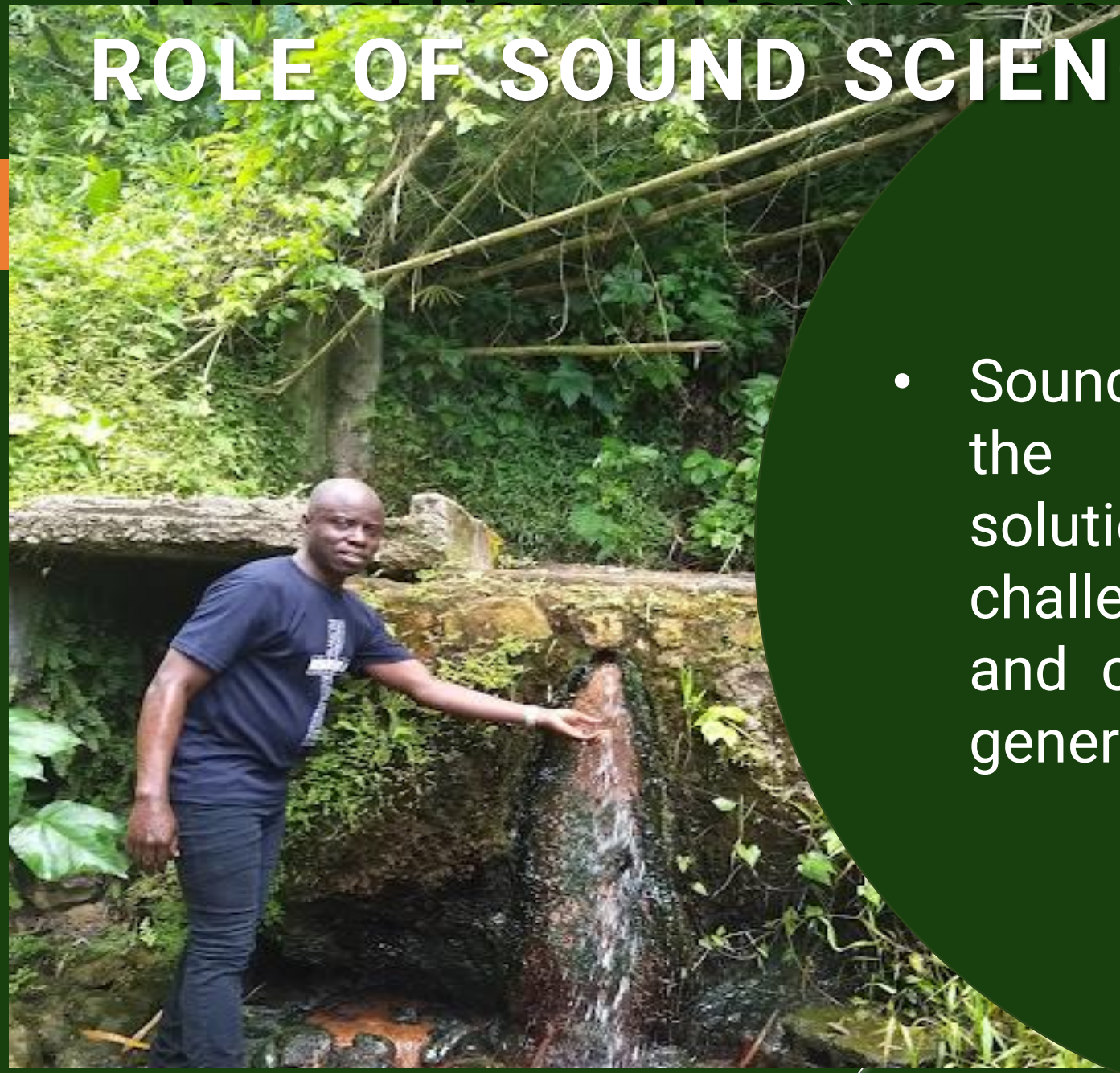
It involves the pursuit of knowledge and understanding through the formulation and testing of hypotheses, the gathering and analysis of empirical evidence, and the development of theories or models that explain natural phenomena.

RESEARCH

Research is a systematic process of inquiry that aims to generate new knowledge, deepen understanding, or solve specific problems.

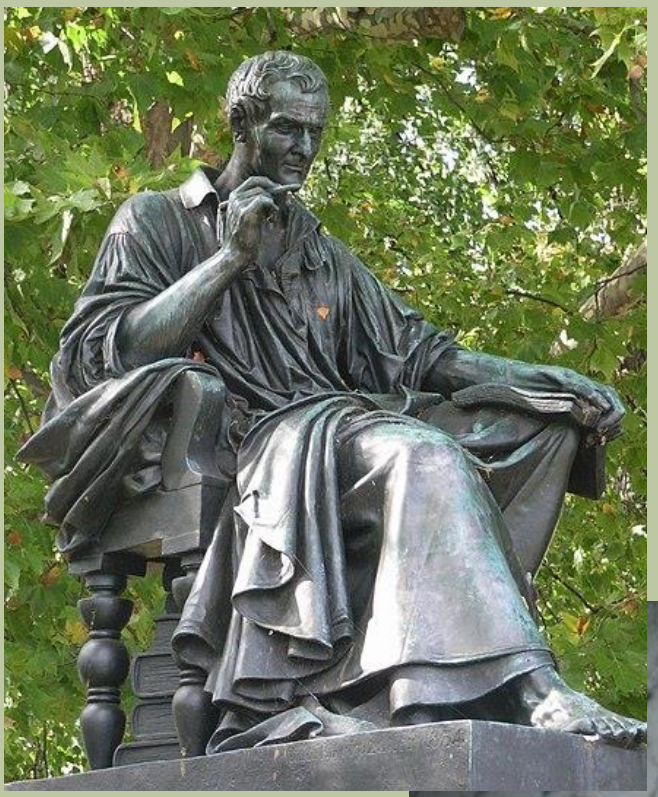
“Research is seeing what everybody else has seen and thinking what nobody else has thought.” *Albert Szent-Györgyi*

ROLE OF SOUND SCIENCE AND RESEARCH



- Sound science and research provide the knowledge, innovations, and solutions needed to address complex challenges, improve quality of life, and create a sustainable future for generations to come.

ROLE OF SCIENTIFIC COMMUNITIES



Science is the enterprise the ply and Research is the process they conduct

1. **Academies**: Pivotal in advancing scientific knowledge by providing platforms for expert collaboration, interdisciplinary research, and advising governments on evidence-based policies that balance scientific progress with ethical and societal considerations.

2. **Disciplinary Bodies**: Establish standards, ethical guidelines, and codes of conduct to uphold the integrity and reliability of research, oversee professional development, and address misconduct to maintain the credibility of scientific knowledge.

ROLE OF SCIENTIFIC COMMUNITIES

3. Unions

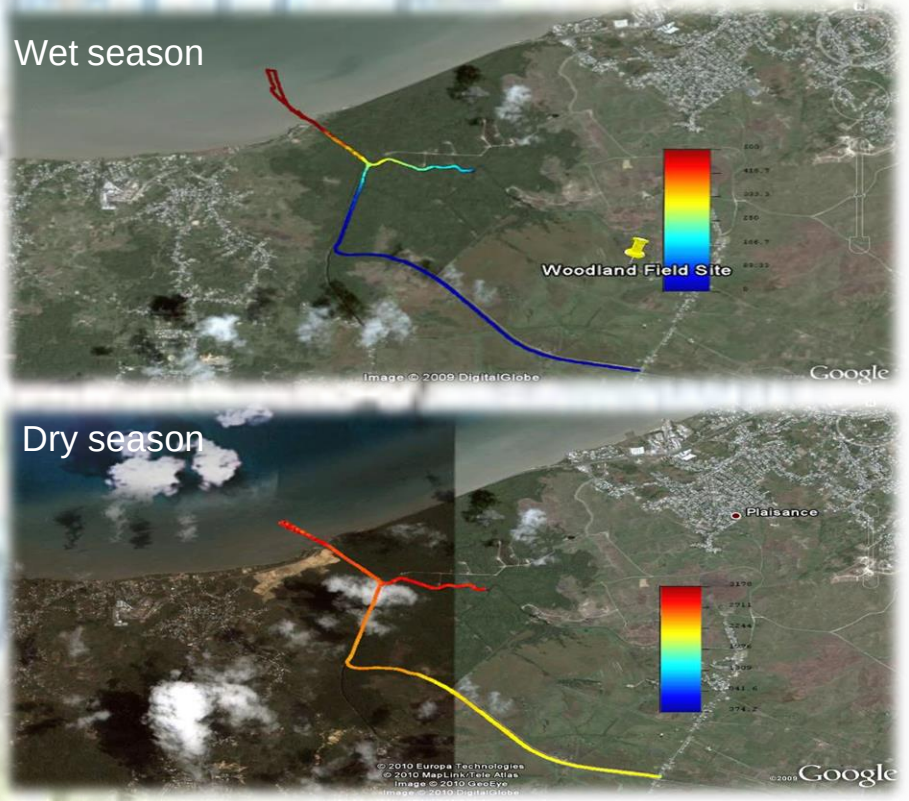
Advocate for scientists' rights including access to resources, academic freedom, fair working conditions, and career opportunities, while also mobilizing collective action to address challenges such as funding constraints and discriminatory practices in the scientific community.

4. International Scientific Organizations:

Foster global collaboration, knowledge exchange, and cooperation among scientists, facilitating joint research initiatives and disseminating findings. They also engage with policymakers and international institutions to promote evidence-based decision-making and advocate for the universal right to science.

SCIENCE COMMUNITIES AND RELATIONSHIP WITH THE STATE

- **Investing in scientific research** and supporting evidence-based policies should be a priority for governments, institutions, and individuals alike.
- **State has a role** in providing an enabling environment to national academies for free and responsible science to thrive.
- **Scientific autonomy**: independence and freedom of scientists and researchers to conduct their work without undue influence or interference from external entities.
- **Autonomy is essential** for maintaining the integrity, credibility, and objectivity of scientific inquiry.
- **Several key issues** of interference that can compromise scientific autonomy and its benefits.



Salt water intrusion further in land in South Oropouche River, Trinidad

KEY ISSUES

Global Rhetoric

Researchers are forced to tailor their research to match global focus e.g., Climate Change

Political Interference

Governments or political entities may attempt to influence scientific research with outcomes that suit the political narrative

Donors

Research Themes and focus is determined by “external” entities

Developmental Agencies

Focus is placed on the global trends which may not be aligned to national and regional developmental needs (SDGs in the Caribbean)

KEY ISSUES

Ethical Concerns

Pressure from stakeholders, including funders, institutions, or the public, to produce specific results or to prioritize certain research areas over others can raise ethical dilemmas.

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Censorship and Suppression

Scientists may face censorship, harassment, or even persecution for researching controversial or sensitive topics that challenge prevailing beliefs, policies, or societal norms.

Funding Constraints and Priorities

Limited funding and resource allocation by governments, institutions, or donors may restrict scientific autonomy by shaping research agendas, influencing study designs, and determining the dissemination of research findings

Misinformation and Public Perception

The spread of misinformation, skepticism towards scientific expertise, and public mistrust in scientific institutions can erode scientific autonomy by undermining the authority and credibility of scientific research.

KEY ISSUES

Scientific Dishonesty

Scientist can engage in data fabrication and falsification

Institutional mechanisms

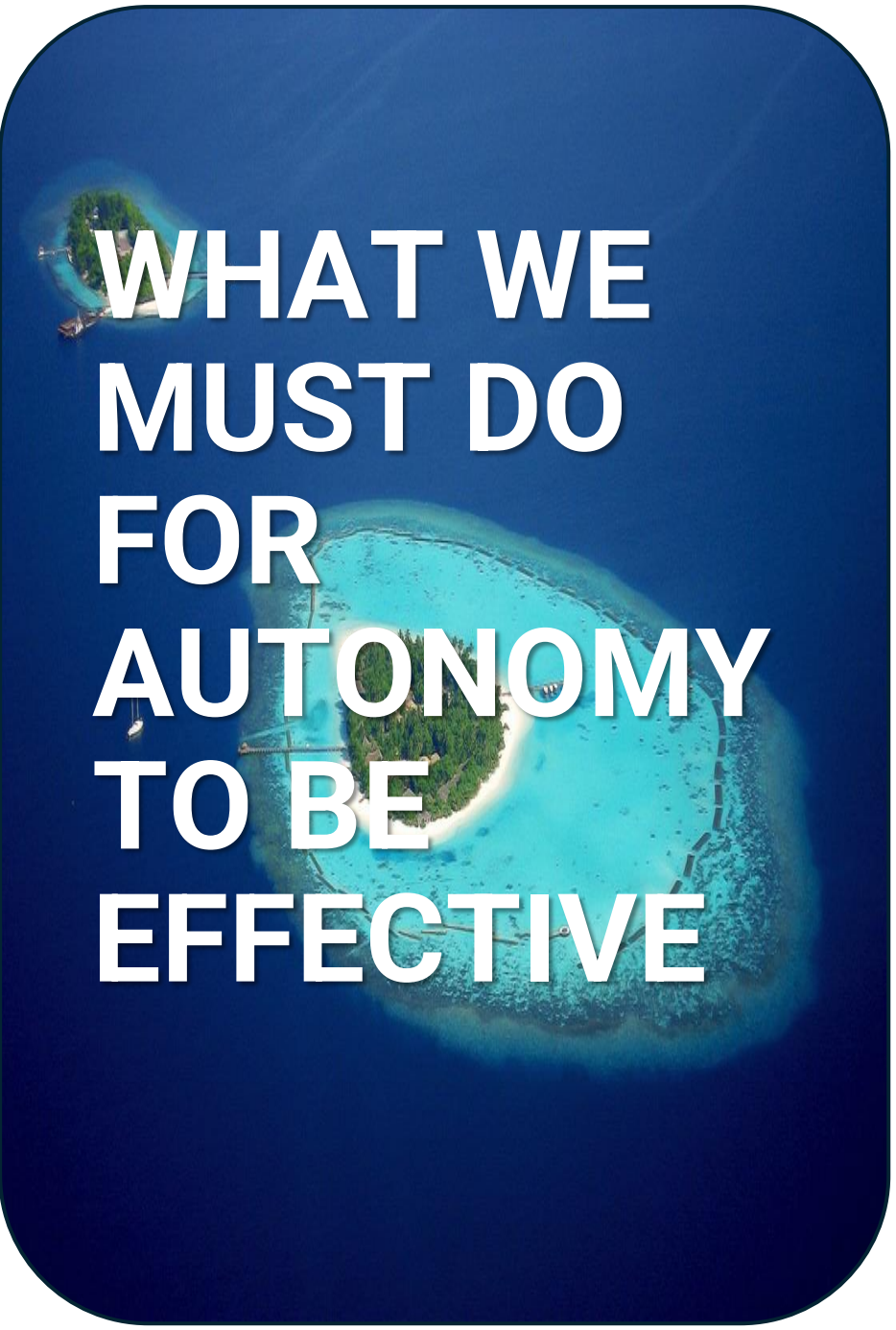
Universities, research institutes and scientific bodies may not have strong mechanisms to investigate scientific misconduct.

Trade Union impact

Unionized environments can influence technical support required by scientists.

Institutional Strategic direction

This forces scientists to align research to this direction hampering the freedom to do innovative work.



WHAT WE MUST DO FOR AUTONOMY TO BE EFFECTIVE

Adherence to Ethical Standards and freedom of inquiry

- Researchers must adhere to strict ethical standards throughout all stages of the research process..
- Scientists must have the freedom to explore, investigate, and question without external pressures or restrictions. This includes the freedom to choose research topics, methods, and dissemination of findings.

Transparency and Openness

- Transparency is crucial for maintaining integrity in science. Researchers should be transparent about their methods, data collection procedures, analytical techniques, and any potential limitations of their studies.

Peer Review and Collaboration:

- Researchers should actively participate in peer review processes by submitting their work to reputable journals, providing constructive feedback on the work of others, and engaging in collaborative research endeavors.
- Collaboration fosters interdisciplinary exchange, stimulates innovative thinking, and enhances the robustness of scientific inquiry.

Independence from External Influence:

- Researchers should avoid conflicts of interest, whether financial, institutional, or personal, that could compromise the integrity of their work. Funding sources should be disclosed transparently, and efforts should be made to minimize the influence of funders on research design, conduct, and interpretation.

Commitment to Truth and Objectivity:

- Researchers should prioritize the pursuit of knowledge over personal or professional interests, and they should strive to conduct research with intellectual honesty, skepticism, and rigor.
- This entails critically evaluating evidence, being open to alternative explanations, and acknowledging uncertainty and ambiguity in scientific inquiry.


THANK YOU!