



# 2nd Global Genetic Biocontrol Congress

## Pre-Congress Course Programme

### Introductory Course on Regulatory Science for Genetic Biocontrol Technologies

**Course facilitators:** Prof Dorington Ogoji and Vibha Ahuja

**March 17-18, 2025 | Alisa Hotel North Ridge, Accra, Ghana**

**Organized by:** African Genetic Biocontrol Consortium in collaboration with National Biosafety Authority in Ghana



In Partnership with



## Pre-Congress Course Programme March 17-18, 2025

### Course 001/2/2025: Regulatory frameworks and decision-making processes for emerging biotechnologies

Course facilitators: Prof Dorington Ogoji and Dr. Vibha Ahuja

Venue: Ridge Hall

#### About the Course

This preconference session is designed to provide participants with a foundational understanding of the regulation of emerging genetic biocontrol technologies. It will equip participants with knowledge and tools to navigate regulatory frameworks, assess risks, and ensure compliance with national and international guidelines. The session will focus on identifying regulatory challenges, evaluating potential risks and benefits, and fostering robust oversight mechanisms. Emphasis will be placed on applying evidence-based practices, stakeholder engagement, and ethical considerations to enhance the safe and responsible development of genetic biocontrol technologies.

#### Course Program

Time	Registration	Speaker	Moderator
<b>DAY 1: MARCH 17, 2025</b>			
08:30 - 09:30 AM	Welcome Remarks	Eric Okoree	Cyrus Tareh
	Introduction to the Workshop	Prof Dorington Ogoji	
	Pre-workshop assessment	Vibha Ahuja	
<b>SESSION 1 FUNDAMENTALS OF GENE DRIVE TECHNOLOGIES AND REGULATORY FRAMEWORK</b>			
09:30 - 10:00 AM	<b>Sterile Insect Techniques (SIT) for mosquito control.</b> This session will describe Insect Incompatibility techniques (IIT) methods and their impact on mosquitoes, comparing SIT and IIT during mosquito development and advances in SIT and IIT for effective mosquito control.	Givemore Munhenga	Eric Okoree
10:00 - 10:30 AM	<b>Fundamentals of gene drive technologies, genome editing and GMOs</b> This session will provide an overview of the gene drive system e.g. CRISPR-Cas9, Homing Endonuclease genes; principles of genome editing; applications in agriculture, healthcare, and conservation biology; and ethical considerations and societal impact.	Daniel Maeda	
10:30 - 11:00 AM	Q&A		
11:00 - 11:30 AM	<b>Break and Photo Session</b>		
11:30 - 12:00 PM	<b>Introduction to WHO Guidance for GMMs and Containment Practices for Arthropods Modified with Engineered Transgenes Capable of Gene Drive.</b> This session will discuss the WHO Guidance for GMMs and Arthropod Containment Guidelines which provides recommendations for containment and best practices in research with arthropods containing engineered transgenes capable of gene drive.	Brian Tarimo	Josphat Muchiri
12:00 - 12:15 PM	Q&A		

12:15 – 12:45 PM	<b>Regulatory frameworks for gene drives and genome editing</b> <i>The session will present the global developments including under the Cartagena Protocol on Biosafety); regional and country specific approaches for regulating gene drives and genome editing research and applications.</i>	Vibha Ahuja	Prof Ogoyi
12:45 – 1:00 PM	Q&A		
1:00 – 2:00 PM	Lunch		
<b>SESSION 2: RISK ASSESSMENT AND STAKEHOLDER ENGAGEMENT</b>			
2:00 – 2:30 PM	<b>Designing a regulatory framework</b> This presentation is intended to provide general principles that guide how an effective regulatory framework is designed and provide case studies of functional regulations in other regions.	Eric Okoree	Vibha Ahuja
2:30 – 2:45 PM	Q&A		
2:45 – 3:15 PM	<b>Risk assessment and Risk management frameworks for gene drive research</b> This session will provide participants with foundational knowledge of environmental and health risk assessment principles in the context of gene drive research. It will inform on risk management frameworks that are specific to gene drive technologies, equipping participants with tools to evaluate potential environmental and health safety impacts. Emphasis will be placed on applying these frameworks to ensure responsible research and development.	Josephat Muchiri	Daniel Maeda
3:15 – 3:30 PM	Q&A		
3:30 – 4:00 PM	<b>Tools and methodologies in risk assessment of genetic biocontrol technologies</b> <i>This session will focus on tools and methodologies for evaluating the potential impacts of gene drive technologies. Participants will gain insights into the gene drive risk assessment guidelines approved in CBD COP16 in Cali, exploring their application in assessing ecological and health risks. The session will emphasize practical approaches to identifying and mitigating potential impacts, ensuring alignment with international best practices.</i>	Vibha Ahuja	Givemore Munhenga
4:00 – 4:30 PM	Q&A		
4:30 – 5:00 PM	Tea Break		
5:00 – 5:30 PM	<b>Group discussion: Exercises in conducting risk assessment</b> This session will enable the participants to discuss elements considered when performing risk assessment.	Josephat Muchiri	Vibha Ahuja
5:30 – 6:00 PM	Q&A	All	
6:00 PM	End of Day 1		
7:30 PM	Group dinner		

**DAY 2: MARCH 18, 2025****SESSION 3: EMERGING TECHNOLOGIES AND THE SOCIETY**

8:30 - 9:00 AM	<b>Public engagement and Stakeholder communication</b> <i>This session will focus on the important role of communication and stakeholder engagement on emerging technologies and their regulation. It will examine best practices and tools that promote transparent, inclusive, and informed dialogue among scientists, policymakers, regulatory authorities, and other stakeholders.</i>	Philbert Nyinondi	Brian Tarimo
9:00 – 9:30 AM	<b>Community stakeholder perspectives during ARTs-based Approaches as community engagement mechanisms for piloting the sterile insect technique in South Africa.</b> <i>This session will describe exploratory qualitative approach using key informant interviews to understand stakeholder experiences with the three arts-based approaches in genetic biocontrol.</i>	Givemore Munhenga	
9:30 – 9:45 AM	Q&A	All	
9:45 – 10:15 AM	<b>Ethical, social, and cultural dimensions</b> This session will address ethical dilemmas in genome editing. It will also reveal the socio-cultural considerations for introducing gene drive technologies and explain the importance of respecting traditional knowledge systems and community values as stakeholders attempt to balance innovation with societal acceptance.	Simon Langat	Givemore Munhenga
10:15 – 10:30 AM	Q&A		
10:30 – 11:00 AM	Tea Break		
<b>SESSION 4: CAPACITY DEVELOPMENT AND MONITORING</b>			
11:00 – 12:00 PM	<b>Capacity development for biosafety regulators</b> This session is designed to enhance the capacity of regulators, developers and policymakers in overseeing genetic biocontrol technologies. It will feature training modules tailored to their needs. The session will also emphasize building cross-sectoral collaboration to strengthen oversight and introduce practical tools for effective policy development and implementation. Participants will gain skills and knowledge to support responsible governance and advance regulatory frameworks.	Eric Okoree	Simon Langat
12:00 – 12:15 PM	Q&A		
12:15 – 12:45 PM	<b>Applications of gene drives in agriculture and healthcare</b> <i>This session will explore case studies of gene drive applications, such as targeting mosquito populations for malaria control and genome editing for crop improvement and pest management. It will highlight the potential role of these technologies in enhancing public health and agricultural productivity. Participants will gain insights into practical applications and the broader implications for sustainable development.</i>	Vibha Ahuja	
12:45 – 1:00 PM	Q&A		
1:00 – 2:00 PM	Lunch		

2:00 – 2:45 PM	<b>Monitoring and surveillance for gene drive applications</b> <i>This session focuses on the practical aspects of setting up monitoring systems for field releases of genetic biocontrol technologies. Participants will explore methods for identifying and managing unintended consequences, ensuring safety and compliance. The session will also cover the development of effective reporting systems and compliance mechanisms to support transparent oversight and adaptive management in the field.</i>	Prof Dorington Ogoyi	Brian Tarimo
2:45 – 3:00 PM	Q&A		
3:00 – 3:45 PM	<b>Practical training and demonstration</b> <i>This session is designed to provide participants with hands-on training in regulatory management tools and decision-making processes for genetic biocontrol technologies through simulation exercises and interactive risk assessment scenarios. Participants will gain practical experience in applying regulatory frameworks to real-world challenges.</i>	Eric Okoree	
3:45 – 4:00 PM	Q&A		
4:00 – 4:30 PM	Tea Break		
4:30 – 4:45 PM	Post-workshop assessment		Cyrus Tareh
4:45 – 5:00 PM	Discussion and Course Evaluation	Dorington Ogoyi/ Vibha Ahuja	
5:00 – 5:30 PM	Closing		
<b>5:30 PM</b>	<b>End of Workshop</b>		



## The African Genetic Biocontrol Consortium

10D, Sifa Towers, Lenana/Cotton Avenue Junction, Nairobi Locate us

Phone: +254 020 205 4451 | +254 719 283 353

Email: [info@genbioconsortium.africa](mailto:info@genbioconsortium.africa) | Website: [www.genbioconsortium.africa](http://www.genbioconsortium.africa)

