Rabies Accessible Genomic Epidemiology (RAGE) Workshop

Capacity Building for In-Country Genomic Epidemiology to Underpin One Health Surveillance.

Venue: Nigeria Centre for Disease Control, Abuja

Date: 12th – 16th December, 2024

OPENING CEREMONY

Venue: Ajuji Greenwich Hotel

Day 1 – Monday, 12th February, 2024

TIME	ACTIVITIES	SPEAKER
8:30 – 9:00 AM	Registration	All
0930	National Anthem	All
9:30- 9:45	Welcome remarks	
9:45 – 10:30	Goodwill messages	NCDC, FMAFS, FMHSW, NVRI, ECOWAS, ACEGID, APHA, WHO, FAO, WOAH, US CDC, AFENET, FarmAlert, NVMA, VCN.
10:30 – 10:45	Opening remarks	NCDC director
10:45- 11:00	Keynote message	Prof Tomori
11:00 – 11:15	Rabies, One Health & the 2030 countdown	Prof. Katie Hampson
11:15 – 11:45	Progress and prospects for RABV genomic research	Dr. Kirstyn Brunker
11:45 – 12:00	Ahmadu Bello University (ABU) Centre of excellence, its roles, mandates, and activities on the control and prevention of NTDs in Nigeria	Prof. YKE Ibrahim (Centre Leader ACENTDFB ABU)
12:00- 12:15	Question and Answer session	All
12:15 – 12:45	Short Presentations:	
	Making genomic surveillance deliver for rabies	Dr. Kathryn Campbell
	A framework for predicting the impacts of rabies control and prevention strategies in East Africa	Martha Luka
	Genomic surveillance in the Philippines: an outbreak investigation	Criselda Bautista
12:45 – 13:00	Question and Answer session	
13:00 – 13:15PM	Vote of thanks	All
13:30 – 14:30	*Lunch*	All
~15:00	Pictures	
Trainers and Trainees only		
Late afternoon	Demo: Lab-in-a-suitcase	*Kirstyn Brunker*
5:00– 5:30PM	*Tea break & adjourn*	

TRAINING WORKSHOP

Venue: NCDC Referenc e lab, Gaduwa, Abuja

Day 2 – Tuesday, 13th February

TIME	ACTIVITIES	SPEAKER
9:00-9:15	Workshop introduction	*Kirstyn Brunker*
9:15-9:35	Sample preparation	*Kirstyn Brunker*
9:35 – 9:50	NCDC laboratory safety	*Ogarega Daudu (NCDC)*
10:00- 10:30	Overview of RAGE sample-sequence-interpretation workflow	*Criselda Bautista*
10:30 – 11:00	General Q&A	
11:00-11:30	Introduction to Nanopore Sequencing	*Kirstyn Brunker*
12:30 – 14:00	*Lunch*	
14:00 – 17:30	Lab masterclass sessions: • SPRI beads (Essel Bautista) • Multiplex PCR (Kathryn Campbell) • Fluorometer (Quantus) quantification (Martha Luka) • Nanopore flowcells (Kirstyn Brunker)	*All lab trainers*
17:30	*Tea break & Finish*	

Day 3 – Wednesday, 14th February

TIME	ACTIVITIES	SPEAKER
8:30-9:00	Recap of Day 2 / Day 3 overview	*Kirstyn Brunker*
9:00-10:00	Lab masterclass sessions (*continued*)	*All lab trainers*
10:00 – 12:30	Lab practical: Nanopore sequencing library preparation • End-prep • Barcoding ligation • Clean-up	
12:30 – 13:30	*Lunch*	
13:30 – 16:30	Lab practical: Nanopore sequencing library preparation • Post barcoding Quantification • Adaptor ligation • Clean-up • Final library Quantification	*All lab trainers*
16:30-17:30	Nanopore sequencing & monitoring run	*Kirstyn Brunker & Essel Bautista*

	• Flowcell primed & loaded • MinKNOW set-up and monitoring • RAMPART overview	
17:30	*Tea break & Finish*	

Day 4 – Thursday, 15th February

8:30-9:15	Recap of Day 3 & additional explainers	*Kirstyn Brunker*
9:15-9:30	Bioinformatics in action	*Sandeep Kasaragod*
9:30-9:45	A brief introduction to conda	*Kirstyn Brunker*
9:45-10:30	Computer practical: Install a conda environment	*All trainers (Lead: Sandeep Kasaragod)*
10:30-10:45	Introduction to the command line	*Sandeep Kasaragod*
10:45-12:30	Computer practical: Command line basics	*All trainers (Lead: Sandeep Kasaragod)*
12:30 – 13:30	*Lunch*	
13:30-13:50	Overview of sequence data	*Kirstyn Brunker*
13:50-15:00	Computer practical: Running a bioinformatic pipeline	*All trainers (Lead: Sandeep Kasaragod)*
15:00-15:15	Introduction to alignments	*Martha Luka*
15:15-16:00	Computer practical: Sequence alignment	*All trainers (Lead: Martha Luka)*
16:00-16:20	The importance of metadata	*Essel Bautista*
16:20-16:40	An introduction to phylogenetics	*Kathryn Campbell*
16:40 – 17:30	Computer practical: The basics of phylogenetics	*All trainers (Lead: Kathryn Campbell*
17:30	*Tea break & Finish*	

Day 5 – Friday, 16th February

9:00-9:15	Day 4 recap / Day 5 overview	*Kirstyn Brunker*
9:15-9:35	An introduction to molecular clocks	*Martha Luka*
9:35-10:35	Computer practical: molecular clocks	*All trainers (Lead: Martha Luka)*
10:30 – 11:00	Overview of RABV-GLUE (demo)	*Kirstyn Brunker*
11:00 – 11:30	Introduction to lineage classification: MADDOG	*Kathryn Campbell*
11:30 – 11:45	Computer practical: Classifying clades and lineages	*All trainers (Lead: Kathryn Campbell)*
12:30 - 1:30	*Lunch*	
13:30 - 14:30	Computer practical: Interpreting the results	*Kathryn Campbell*
14:30 – 16:30	Breakout discussion groups: Translating results to stakeholders	*All trainers (Lead: Kathryn Campbell)*
16:30-17:00	**Workshop close**	*Kirstyn Brunker*