

Cancer Genome Analysis (Africa), 12-16 September 2022 (Virtual)

Pre-course & pre-recorded modules	Link
Unix/Linux	FutureLearn Week 1 Course
Sample collection, preparation, storage and processing	Solomon
Molecular diagnostic applications and limitations	Anna Godfrey's Lecture
Next generation sequencing technologies	Michael Quail's Lecture
Online databases	Nyasha

Introduction zoom link:

Thursday 8th September 2022

Time	Session	Content	Training team	WCS Staff
09:00-11:00 MX 10:00-12:00 EDT 15:00-17:00 BST 16:00-18:00 CAT 17:00-19:00 CET		Wellcome Connecting Science Welcome and Intro. (5 min) Training team introductions (10 min) Participant introductions (45 min) Intro to cancer genomics (30 min)- Nyasha Cancer genomics and research in LMICs (30 min)- Solomon/Hannah	All	All

Training team

WCS Team

Daniela Robles	DR	Nana Amoako	NA	Alice Matimba	AM
Erik Dawson	ED	Patricia Basurto	PS	Isabela Malta	IM
Federico Abascal	FA	Marcos Diaz-Gay	MD	Karon Chappell	KC
Floris Barthel	FB	Khadiime Jhumka	KJ	Martin Aslett	MA
Hannah Ayettey	HA	Samuel Kojo	SK	Mark Sheppard	MS
Ludmil Alexandrov	LA	Collins Moranga			
Mariana Boroni	MB	Marya Kazachkova	MK		
Nyasha Chambwe	NC				
Shakuntala Baichoo	SB				
Solomon Rotimi	SR				

Course zoom link: <https://sanger.zoom.us/j/97926490664?pwd=b29wdmJUaUtZNXlvcE9wTkVHM0hvdz09>

Github repository link: https://github.com/WCSCourses/cancer_genome_analysis_africa

Slack workspace: https://join.slack.com/t/wcscancergenofv63425/shared_invite/zt-1fqwze7l-GlmknOWz0~tBmn54HH6Lsg

Monday 12nd September 2022

Time	Module	Content/Title	Session structure materials (lecture, prac, breakout room)	Training team	WCS Staff
06:00 - 07:30 EDT 11:00 - 12:30 BST 12:00 - 13:30 CAT	1	Intro to Data formats & QC	Lecture	Daniela, Eric Nyasha, Mari, Solomon, Sam	IM KC
15 minutes	BREAK				
07:45 - 08:45 EDT 12:45 - 13:45 BST 13:45 - 14:45 CAT	1	Data formats & QC	Practical	Daniela, Eric Nyasha, Mari, Solomon, Sam	IM
45 minutes	MEAL BREAK				
09:30 - 10:45 EDT 14:30 - 15:45 BST 15:30 - 16:45 CAT	1	Data formats & QC	Practical (continued)	Daniela, Eric Nyasha, Mari, Solomon, Sam	IM
15 minutes	BREAK				
11:00 - 11:45 EDT 16:00 - 16:45 BST 17:00 - 17:45 CAT	S1		Seminar - Funmi Olopade	Nyasha to intro Funmi	IM
11:45 - 13:15 EDT 16:45 - 18:15 BST 17:45 - 19:15 CAT	1	NGS file formats and data & QC	Practical (continued)	Daniela, Eric Nyasha, Mari, Solomon, Sam	IM
13:15 - 13:30 EDT 18:15 - 18:30 BST 19:15 - 19:30 CAT		<i>Day wrap-up</i>			IM

Tuesday 13th September 2022

Time	Module	Content/Title	Session structure materials (lecture, prac, breakout room)	Training team	WCS Staff
06:00 - 07:00 EDT 11:00 - 12:00 BST 12:00 - 13:00 CAT	2	Mutation Calling: Theory behind variant calling, modification for cancer calling algorithms, different callers available	Lecture	Floris, Eric Mariana, Daniela, Patricia, Nyasha, Collins	IM KC
07:00 - 07:30 EDT 12:00 - 12:30 BST 13:00 - 13:30 CAT	2	Mutation Calling: Run a mutation caller on cancer sequencing files	Practical	Floris, Eric Mariana, Daniela, Patricia, Nyasha, Collins	IM
15 minutes	BREAK				
07:45 - 18:45 EDT 12:45 - 13:45 BST 13:45 - 14:45 CAT	2	Mutation Calling: Do mutation filtering, perform consequence calling	Practical	Floris, Eric Mariana, Daniela, Patricia, Nyasha, Collins	IM
45 minutes	MEAL BREAK				
09:30 - 10:15 EDT 14:30 - 15:15 BST 15:30 - 16:15 CAT	S2		Seminar		IM
10:15 - 11:30 EDT 15:15 - 16:30 BST 16:15 - 17:30 CAT	2	Mutation Calling: Perform consequence calling	Practical (continued)	Floris, Eric Mariana, Daniela, Patricia, Nyasha, Collins	IM
15 minutes	BREAK				
11:45 - 13:15 EDT 16:45 - 18:15 BST 17:45 - 19:15 CAT	2	Mutation Calling: Create a summary of results	Practical	Floris, Eric Mariana, Daniela, Patricia, Nyasha, Collins	IM
13:15 - 13:30 EDT 18:15 - 18:30 BST 19:15 - 19:30 CAT		<i>Day wrap-up</i>			IM

Wednesday 14th September 2022

Time	Module	Content/Title	Session structure materials (lecture, prac, breakout room)	Training team	WCS Staff
06:00 - 07:00 EDT 11:00 - 12:00 BST 12:00 - 13:00 CAT	3	Driver Gene Identification & Oncoplots	Lecture	Federico Shakuntala, Mariana, Daniela, Eric, Patricia, Sam	IM KC
07:00 - 07:30 EDT 12:00 - 12:30 BST 13:00 - 13:30 CAT	3	Driver Gene Identification Exercises	Practical	Federico Shakuntala, Mariana, Daniela, Eric, Patricia, Sam	
15 minutes	BREAK				
07:45 - 08:45 EDT 12:45 - 13:45 BST 13:45 - 14:45 CAT	3	Driver Gene Identification: Try different methods	Practical	Federico Shakuntala, Mariana, Daniela, Eric, Patricia, Sam	IM
45 minutes	MEAL BREAK				
09:30 - 10:15 EDT 14:30 - 15:15 BST 15:30 - 16:15 CAT	S3	Cancer genomics in Latin America	Seminar	Daniela Robles	IM
10:15 - 11:30 ET 15:15 - 16:30 BST 16:15 - 17:30 CAT	3	Compare Results & Discuss	Practical (continued)	Federico Shakuntala, Mariana, Daniela, Eric, Patricia, Sam	IM
15 minutes	BREAK				
11:45 - 13:15 EDT 16:45 - 18:15 BST 17:45 - 19:15 CAT	3	Generate Oncoplots	Practical	Federico Shakuntala, Mariana, Daniela, Eric, Patricia, Sam	IM
13:15 - 13:30 EDT 18:15 - 18:30 BST 19:15 - 19:30 CAT		<i>Day wrap-up</i>			IM

Thursday 15th September 2022

Time	Module	Content/Title	Session structure materials (lecture, prac, breakout room)	Training team	WCS Staff
06:00 - 07:00 EDT 11:00 - 12:00 BST 12:00 - 13:00 CAT	4	Mutation Signatures	Lecture	Shakuntala, Eric, Ludmil, Marcos, Mariya, Khadime	IM KC
07:00 - 07:30 EDT 12:00 - 12:30 BST 13:00 - 13:30 CAT	4	Generation of mutational profiles	Practical	Shakuntala, Eric, Ludmil, Marcos, Mariya, Khadime	
15 minutes	BREAK				
07:45 - 18:45 EDT 12:45 - 13:45 BST 13:45 - 14:45 CAT	4	Mutation Signatures: Extraction using SigProfilerExtractor	Practical	Shakuntala, Eric, Ludmil, Marcos, Mariya, Khadime	IM
45 minutes	MEAL BREAK				
09:30 - 10:15 EDT 14:30 - 15:15 BST 15:30 - 16:15 CAT	S4	Esophageal Cancer genomics in Africa: Research opportunities and challenges	Seminar	Hannah Simba	IM
10:15 - 11:30 EDT 15:15 - 16:30 BST 16:15 - 17:30 CAT	4	Mutation Signatures: Interpretation of the extracted signatures	Practical (continued)	Shakuntala, Eric, Ludmil, Marcos, Mariya, Khadime	IM
15 minutes	BREAK				
11:45 - 13:15 EDT 16:45 - 18:15 BST 17:45 - 19:15 CAT	4	Mutation Signatures: Assigning reference mutational signatures to individual samples	Practical	Shakuntala, Eric, Ludmil, Marcos, Mariya, Khadime	IM
13:15 - 13:30 EDT 18:15 - 18:30 BST 19:15 - 19:30 CAT		<i>Day wrap-up</i>			IM

Friday 16th September 2022					
Time	Module	Content/Title	Session structure materials (lecture, prac, breakout room)	Training team	WCS Staff
06:00 - 07:00 EDT 11:00 – 12:00 BST 12:00 – 13:00 CAT	5	RNA Deconvolution	Lecture	Mariana, Daniela Eric, Collins	IM KC
07:00 - 07:30 EDT 12:00 – 12:30 BST 13:00 - 13:30 CAT	5	RNA Deconvolution	Practical (Demo)	Mariana, Daniela Eric, Collins	
15 minutes	BREAK				
07:45 - 08:15 EDT 12:45 – 13:15 BST 13:45 - 14:15 CAT	5	RNA Deconvolution	Practical (Continued)	Mariana, Daniela Eric, Collins	IM
45 minutes	MEAL BREAK				
09:00 - 09:45 EDT 14:00 – 14:45 BST 15:00 - 15:45 CAT	S5	African Cancer Networks	Seminar	Solomon	IM
09:45 - 11:15 EDT 14:45 - 16:15 BST 15:45 - 17:15 CAT		Micro Projects		Daniela/Solomon	IM
15 minutes	BREAK				
11:30 - 13:00 EDT 16:30 - 18:00 BST 17:30 - 19:00 CAT		Micro Projects		Daniela/Solomon	IM
13:00 - 13:15 EDT 18:00 - 18:15 BST 19:00 - 19:15 CAT		<i>Course Wrap-up</i>			IM KC