



16th March to April 1th, 2021

CRISPR genome editing

CRISPR genome editing is revolutionizing biomedical research, providing a toolbox for precise modification of genomic sequences and their regulation in any type of cell and organism. The application of CRISPR in biomedical research is broad and ranges from fundamental research to the clinic. During this course participants will learn about the basic concepts of CRISPR-mediated genome editing, its experimental design and a diverse range of CRISPR applications. Experts in the CRISPR field will present their work on different topics including large-scale screening, generation of *in vitro* and *in vivo* disease models, CRISPR diagnostics and therapeutic applications.

The course will consist of lectures, discussions and group assignments. The speakers include national and international experts including John Doench (Broad Institute, USA), Michael Bassik (Stanford University, USA), Jason Moffat (University of Toronto, Canada), Joey Riepsaame (University of Oxford, UK).

After finishing this course the participants will have acquired broad knowledge on the basics of CRISPR genome editing, the design of CRISPR experiments and diverse applications of CRISPR genome editing. Participants will be able to apply this knowledge to advance their own research projects.

The course is organized and coordinated by The Netherlands Cancer Institute, Amsterdam UMC Cancer Center Amsterdam and the ScreeninC national infrastructure for genome editing and large scale functional genomic screening, in collaboration with the OOA. The course is limited to 28 participants. When the course is oversubscribed, selection will be based on interest and motivation.

Date:	March 16 to April 1, 2021
Location:	NKI-AvL and online
ECTS:	2.5 EC (1 EC = 28 hour)
Requirements:	Laptop/ computer/ chromebook with camera, audio and internet connection
Target audience:	OOA PhD students Amsterdam UMC and NKI-AvL
Price:	Free of charge
Organization:	Roderick Beijersbergen (NKI), Rob Wolthuis , Rodrigo Leite de Olivera (AUMC)
Information:	Patty Lagerweij (p.lagerweij@nki.nl)
Registration deadline:	February 15, 2021

[Click here](#) to register for this course

PRELIMINARY PROGRAMME

 OOA CRISPR Genome Editing course Organizers: Roderick Beijersbergen, Rob Wolthuis and Rodrigo Leite de Oliveira Date March 16 - April 1st, 2021 Location NKI and online with ZOOM						
						
week 1	TUESDAY	16-Mar		Speaker	Title	
	9.30 - 11.15	glazen zaal	Introduction	Roderick /Rob /Rodrigo		
	11. 30 - 12.45	glazen zaal	Lecture	Joey Riepsaame - UK	CRISPR basics	
	lunch break glazen zaal					
	13.30 - 14.45	glazen zaal	Lecture	Joost Schimmel LUMC - NL	CRISPR DNA repair	
	15.00- 16.00	glazen zaal	Groups and subjects assignments			
	WEDNESDAY	17-Mar				
	13.30 - 14.45	glazen zaal	Lecture	Rob/Roderick AUMC/NKI	Intro CRISPR screening	
	walk to PBA and coffee/tea break in PBA					
	15.00- 16.00	PBA/ZOOM	International seminar	John Doench - USA	Going Deeper, Wider, and Finer with	
	16.00-17.00	PBA/ZOOM	Discussion	John Doench - USA	CRISPR technology for Genetic Screens	
	THURSDAY	18-Mar				
	13.00 - 14.00	PBA	TBD			
	14.15- 15.30	PBA	TBD			
	16.00-17.00	PBA/ZOOM	International seminar	Mike Bassik - USA	Development new CRISPR/Cas9-based	
	17.00-18.00	PBA/ZOOM	Discussion	Mike Bassik - USA	tools to identify cancer drug targets	
	FRIDAY	19-Mar			and mechanisms of cellular uptake	
14.30-15.30	PBA/ZOOM	Lecture	Floris Foijer - NL	Modelling disease using CRISPR-iPSCs		
15.30-17.00	PBA	Lecture	Jos Jonkers - NKI	Mouse models		
week 2	TUESDAY	23-Mar		Speaker	Title	
	09.00 - 10.00	glazen zaal	TBD			
	10.00 - 11.00	glazen zaal	TBD			
	11.00 - 12.00	glazen zaal	TBD			
	lunch break-You can sit in this room until 14.45 hrs - walk to PBA					
	15.00-16.00	PBA/ZOOM	International seminar	Jason Moffat - Toronto, CA	TBA	
	16.00-17.00	PBA/ZOOM	Discussion	Jason Moffat		
	WEDNESDAY	24-Mar				
	10.00 - 11.15	PBA	Lecture	Jarno Drost - PMC, NL	Organoid models	
	11.15- 12.30	PBA/ZOOM	Lecture	Sandra Rodriguez - Spain	Detection of gene fusions in cancer	
	THURSDAY	25-Mar				
	10.00 - 11.15	glazen zaal	feedback presentations assignments			
	11. 30 - 12.45	glazen zaal				
lunch break glazen zaal						
13.30 - 14.45	glazen zaal	feedback presentations assignments				
15.00- 16.15	glazen zaal					



OOA CRISPR Genome Editing course

Organizers: Roderick Beijersbergen, Rob Wolthuis and Rodrigo Leite de Oliveira

Date: March 16 - April 1st, 2021

Location: NKI and online with ZOOM



week 3	TUESDAY	30-Mar			
	10.00 - 11.15	glazen zaal	Introduction	Roderick Beijersbergen	<i>Intro data analysis and integration</i>
	11.30 - 12.45	glazen zaal	workshop	Cor / Roderick	
	lunch break glazen zaal				
	13.30 - 14.45	glazen zaal	workshop	Cor / Roderick	
	15.00- 16.00	GZ/ZOOM	International Seminar	Arjun Raj - Philadelphia, USA	<i>Emergent cellular ecosystems in melanoma revealed by single cell analysis</i>
	16.00 - 17.00	GZ/ZOOM	Discussion	Arjun Raj	
	WEDNESDAY	31-Mar			
	15.00-16.00	PBA	Lecture	Emiel v.den Akker - Sanquin	<i>CRISPR diagnostics</i>
	16.00-17.00	PBA/ZOOM	International seminar	Shengdar Tsai - Memphis USA	<i>Genome Editing Technologies for</i>
	17.00-18.00	PBA/ZOOM	Discussion	Shengdar Tsai	<i>Therapeutics: From Bench to Bedside</i>
	THURSDAY	1-Apr			
	10.00 - 11.15	glazen zaal	final presentations assignments		
	11.30 - 12.45	glazen zaal			
lunch break glazen zaal					
13.30 - 14.45	glazen zaal	final presentations assignments			
15.00- 16.15	glazen zaal				