MGC course **' Next Generation Sequencing data analysis '**

Date: **26 – 28 August, 2019**

Location: LUMC

Registration

Note: Friendly request to fill in the name of your department and institute at the registration!

This course aims at PhD students, postdocs and senior researchers who are interested in, planning, or already working with next-generation sequencing (NGS) data analysis. This year's course builds on the experiences of the 12 previous courses but has been re-designed to cope with shifting current demands of participants. We welcome researchers from both the genomics and bioinformatics fields.

The aim of the course is to give a broad overview of the different applications of NGS with a focus on different ways to analyse the data. Presentations will discuss specifically the different choices available for data analysis, why a specific approach was selected and which alternatives are available. The course will, besides discussing and demonstrating some generally applicable tools, not include practical data analysis nor discuss in detail specific algorithms used. To get practical experience participants should, after this general introductory course, follow more specific courses (e.g. a course on RNAseq, de novo assembly, metagenomics, etc.).

There is a minimum of 14 and a maximum of 60 places. Deadline for registration 14 August, 2019.

All personnel from MGC institutes get a discount of 100% and pay €0. All other academic participants pay €350 fee. Commercial participants pay €700 fee. In case of no show participants from the MGC institutes will be charged 50 euro, other participants have to pay the full price.

Preliminary Program NGS data analysis 2019, LUMC Leiden

DAY 1 - 26 August

09:00	Welcome & Introduction to NGS	- Johan den Dunnen (LUMC, Leiden)
09:30	Think before you start	- Judith Boer (Princes Maxima Centrum, Utrecht)
10:00	Sample prep methods	- Susan Kloet (LUMC, Leiden)
10:45	Coffee/tea	
11:10	Short-read sequencing technologies	- Wilfred van IJcken (EMC Rotterdam)
11:55	Long-read sequencing technologies	- Yahya Anvar (LUMC Leiden)
12:40	Lunch break	
13:30	Building pipelines	- Ruben Vorderman (LUMC Leiden)
14:15	Alignment methods	- Sander Bollen (LUMC, Leiden)
15:00	Coffee/tea	
15:30	RNA expression profiling	- t.b.d.
16:15	De novo assembly	- Erwin Datema (KeyGene, Wageningen)
17:00	End	

DAY 2 - 27 August

09:00	QC issues	– Thomas Chin-A-Woeng (GenomeScan, Leiden)
09:30	Statistics for NGS	– Renee de Menezes (VUMC Amsterdam)
10:00	Data visualization	– Rutger Brouwer (EMC Rotterdam)
10:30	Coffee/tea	
11:00	Variant calling (GATK)	– Sander Bollen (LUMC Leiden)
11:30	Structural variation analysis	– Victor Guryev (UMCG)
12:00	Cancer & somatic variants	– Dina Ruano (LUMC)
12:30	Lunch break	
13:30	Computer Practicals A - Galaxy / B - Genome browsers	
15:00	Coffee/tea	
15:30	Computer Practicals A - Galaxy / B - Genome browsers	
17:00	End	

DAY 3 - 28 August

9:00	ChIP-Seq	- Hendrik Marks (RU Nijmegen)
9:30	NGS in Forensics	- Peter de Knijff (LUMC, Leiden)
10:00	DNA methylation	- Ruben Boers (EMC Rotterdam)
10:30	Coffee/tea	
11:00	Long read data analysis	- Ali May (BaseClear, Leiden)
11:30	NGS in diagnostics (WES)	- Claudia Ruivenkamp (LUMC Leiden)
12:00	Metagenomics	- Floyd Wiltink (Hogeschool Leiden)
12:30	Lunch break	
13:30	Non-invasive prenatal testing	- t.b.d.
14:00	Single cell expression analysis	- Ioannis Moustakas (LUMC Leiden)
14:45	Discussion, evaluation	
15:30	Coffee/tea/drinks	