

cancer  
genomics &  
developmental  
biology

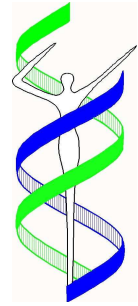
Cancer Genomics & Developmental Biology and  
Medisch Genetisch Centrum zuid-west Nederland  
special course  
7th edition

## Next generation sequencing (NGS) data analysis

University Medical Center Utrecht, August 28–30, 2013

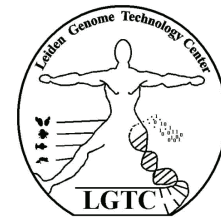
*Jeroen Laros, Wilfred van IJcken, Judith Boer,*

*Johan den Dunnen*



This course aims at PhD students, postdocs, and senior researchers who are interested in, planning, or already working with next-generation sequencing. We welcome researchers from both the genomics and bioinformatics fields. Currently available technologies as well as hardware and software solutions will be presented and discussed. The focus of the course will be on the data and ways to analyse these.

Registration link: <http://www.medgencentre.nl/>



## Wednesday, August 28

09:00 Welcome coffee and sign-in: location – room T.B.A.

### 1. The technologies, their output, and technology-related problems (room T.B.A.)

*chair: Wilfred van IJcken (EMC Rotterdam)*

09:20 Introduction to Next-Generation Sequencing – Johan den Dunnen (LUMC Leiden)

09:50 Roche 454 / Ion Torrent – Harry Cuppens (KU Leuven)

10:30 Coffee break

11:00 Illumina Genome Analyzer – Wilfred van IJcken (EMC Rotterdam)

11:30 ABI SOLiD – Marieke Simonis (UMC Utrecht)

12:00 General discussion

12:15 Lunch

### 2. General Data Analysis (room T.B.A.)

*chair: Jeroen Laros (LUMC Leiden)*

13:20 NBIC BioAssist NGS platform – Hailiang Mei (NBIC)

13:30 Alignment methods – Martijn Vermaat (LUMC Leiden & NBIC)

14:00 Galaxy and GAPSS – Jeroen Laros (LUMC Leiden)

14:30 Combining SV detection tools – Eric-Wubbo Lameijer (LUMC Leiden)

15:00 Coffee break

15:30 De Novo assembly – Erwin Datema (KeyGene)

16:00 Data visualization – Rutger Brouwer (EMC Rotterdam & NBIC)

16:30 End of Day 1

## Thursday, August 29

### 3. Things to Know and Specific Applications I (room T.B.A.)

*chair: Judith Boer (EMC Rotterdam & LUMC Leiden)*

- 09:00 Think before you start – Judith Boer (EMC Rotterdam & LUMC Leiden)
- 09:30 QC issues – Peter-Bram 't Hoen (LUMC Leiden)
- 10:00 Statistics for NGS – Erik van Zwet (LUMC Leiden)
- 10:30 [Coffee break](#)
- 11:00 ChIP-seq – Hendrik Marks (RU Nijmegen)
- 11:30 DNA methylation – Femke Simmer (RU Nijmegen)
- 12:00 RNA expression profiling – Peter-Bram 't Hoen (LUMC Leiden)

[Lunch 12:30 – 13:30](#)

Computer Practicals: T.B.A. (PC room 1) and T.B.A. (PC room 2)

NextGENe – Robert Akkers and Fons Elstrodt (Bioke)

Introduction to Galaxy – Rutger Brouwer (EMC Rotterdam & NBIC), Frank Sleutels (EMC Rotterdam) and Leon Mei (NBIC)

13:30 30 participants Introduction to Galaxy (PC room 1), 30 participants NextGENe (PC room 2)

15:00 [Coffee break](#)

15:30 30 participants NextGENe (PC room 2), 30 participants Introduction to Galaxy (PC room 1)

17:00 [End of Day 2](#)

## Friday, August 30

### 4. Specific applications II (room T.B.A.)

*chair: Johan den Dunnen (LUMC Leiden)*

- 09:00 Metagenomics – Sacha van Hijum (NIZO food research, CMBI bacterial genomics, Nijmegen)
- 09:30 Exome sequencing in a diagnostic setting – Christian Gilissen (UMCN Nijmegen)
- 10:00 De Novo assembly – Jurgen Nijkamp (TU Delft)
- 10:30 [Coffee break](#)
- 11:00 Structural variation analysis using NGS data – Victor Guryev (ERIBA Groningen)
- 11:30 Future developments: single molecule sequencing – Johan den Dunnen (LUMC Leiden)

[Lunch 12:00 – 13:00](#)

Computer Practicals: T.B.A. (PC room 1) and T.B.A. (PC room 2)

CLCbio – Bela Tiwari and Ben Turner (CLCbio)

Genomatix – Korbinian Grote and Mark Hughes (Genomatix)

13:00 30 participants Genomatix (PC room 1), 30 participants CLCbio (PC room 2)

14:30 [Coffee break](#)

15:00 30 participants CLCbio (PC room 2), 30 participants Genomatix (PC room 1)

16:30 [End of Day 3 – Please return evaluation forms and badges](#)