



Program MSc course  
**Chromosome Segregation,  
Aneuploidy and Cancer**

*January 21 - January 25, 2019*

Organizers: Geert Kops & Susanne Lens

General:

For each topic 1 key review article will be selected by the speakers or the organizers that the students have to read before the lectures.

Per lecture 7-8 students have to write an abstract about the lecture that will be judged by Geert and Susanne. Per lecture the best abstracts will be selected and assembled into a document that will be provided to the students as a reminder of the course.

Speakers for course 2019:

(Inter)national speaker

**Susana Godinho (Barts Cancer Institute, London)**

**Bill Earnshaw (Wellcome Trust Institute for Cell Biology, Univ. Edinburgh, UK)**

National speakers:

**Dr. Jonne Raaijmakers (Netherlands Cancer Institute, Amsterdam)**

**Dr. Esther Baart (Erasmus MC, Rotterdam)**

**Monday, 21 Jan, 2019 (Stratenum Building, Yellow Lecture Hall, Str.2.106 + Str.2.112 in the afternoon)**

09.00 - 10.00 General Introduction (Susanne Lens & Geert Kops)

10.00-12.00 A guided tour through Mitosis I: From nuclear envelope breakdown to G1 (cyclin B, mitotic checkpoint, APC/C, centromere/KT, error correction, KT-MT attachment, cytokinesis- in and out of mitosis) (Susanne Lens & Geert Kops)

12.00 - 13.00 lunch

13.00 - 17.30 Analysing mitosis: a practical view on cell division  
Assignments, analyzing, discussing movies of dividing cells.

## **Tuesday, 22 Jan, 2019 (HvB 2.04)**

09.00 - 10.00 Prepare questions for the lecture of Jonne Raaijmakers  
10.00 - 12.00 Aneuploidy and cancer (Jonne Raaijmakers)  
12.00 - 13.00 lunch  
13.00 - 14.00 Prepare questions for Susana Godinho  
14.00 - 15.30 Structure and function of centrosomes (Susana Godinho)  
15.30 - 16.00 Break (transfer to Vondelzaal)  
16.00 - 17.00 Seminar Susana Godinho speaker (**Vondelzaal Str.3.108, Stratenum**): "Extra centrosomes and cancer: reaching out".

The morning (10.00 -12.00) and afternoon lecture (14.00-15.30) will contain a short 15 min. break and includes discussion with the students.

## **Wednesday, 23 Jan, 2019 (HvB 4.43 in the morning/HvB 2.78 + HvB 3.68 in the afternoon till 16.00 hrs)**

10:00 - 11.00 Techniques to study mitotic progression and CIN in human cells (Susanne Lens)  
11.00 - 12.00 Evolution of mitosis (Geert Kops)  
12.00 - 13.00 lunch  
13.00 - 16.00 Work group

Students will be divided into two groups. Each group receives a published paper, but get only the title, the methods section and the figures (no legends). Students (in pairs of 2-3) need to rebuild the paper based on the figures and present to the other group

16:00 - 18.00 Presentations (**HvB 2.07**)

## **Thursday, 24 Jan, 2019 (Stratenum Building, Str. 2.106 + Str. 2.112)**

09.00 - 10.00 Prepare questions for the lecture of Ester Baart  
10.00 - 12.00 Meiosis (Esther Baart)  
12.00 - 13.00 lunch  
13.00 - 14.00 Prepare questions for the lectures of Bill Earnshaw  
14.00 - 15.30 General introduction on centromere biology and chromosome structure (Bill Earnshaw)  
15.30 - 16.00 Break (set-up for seminar)  
16.00 - 17.00 CS&D seminar Bill Earnshaw (**Vondelzaal Str.3.108, Stratenum**): Preliminary title "A pathway of mitotic chromosome formation".

Both the morning (10.00 -12.00) and afternoon lecture (14.00-15.30) will contain a short 15 min. break and includes discussion with the students

**Friday, 25 Jan, 2019 (HvB 3.70 in the morning/Str.2.106 + Str. 2.112  
in the afternoon)**

09.00 – 12.00 Prepare for exam

13.00 - 16.30 Exam

16.30-17.00 Drinks