



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

*January 15 - January 19, 2018*

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 2018:

International speakers:

**Dr. Silke Hauf, Biocomplexity Institute, Virginia Tech (USA)**

**Prof. Dr. Iva Tolic, Ruder Bosckovic Institute, Zagreb (Croatia)**

National speakers:

**Dr Benjamin Rowland (NKI, Amsterdam)**

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

**Monday, 15 Jan, 2018 (HvB 4.52)**

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

10.00-11.00 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)

11.00 - 12.00 CIN, aneuploidy and cancer (Geert Kops)

12.00 - 13.00 lunch

13.00 - 14.00 Prepare questions for the lectures of Silke Hauf

14.00 - 15.30 MCC or APC?? (Silke Hauf)

15.30 - 16.00 Break (set-up for seminar)

16.00 - 17.00 Seminar Silke Hauf (**Vondelzaal, Stratenum Building 3<sup>rd</sup> floor, Str.3.108**)

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

**Tuesday, 16 Jan, 2018 (HvB 4.52 in the morning/Str.2.106 + Str.2.112 in the afternoon)**

09.00 - 10.00 Prepare questions for the lecture of Benjamin Rowland (NKI)  
10.00 - 12.00 Cohesion Biology (Benjamin Rowland)  
12.00 - 13.00 lunch  
13.00 - 17.30 Analysing mitosis: a practical view on cell division

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

Afternoon: assignments, analyzing, discussing movies of dividing cells.

**Wednesday, 17 Jan, 2018 (HvB 2.07 in the morning/HvB 2.07 + HvB 2.05 in the afternoon till 16.00 hrs)**

10:00 - 11.00 Techniques to study mitotic progression 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, 18 Jan, 2018 (HvB 2.07)**

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 Iva Tolic  
14.00 - 15.30 Spindle biology (general introduction?, Iva Tolic)  
15.30 - 16.00 Break (transfer to the Hubrecht Lab, to set-up for seminar)  
16.00 - 17.00 CS&D seminar Iva Tolic (**Auditorium Hubrecht Laboratory**)

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, 19 Jan, 2018 (HvB 2.05 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