

**Lund University**  
*Faculty of Medicine*

## **Developmental Biology and Genetics (BIMA82), 15 hp**

**Scheme for fall 2020**

**(teaching period I)**

**Note: weeks 1 and 6 are held normally, while  
the other weeks are held on-line**

**PBL is always via Zoom**

**Responsible for the course:**

**Stefan Baumgartner BMC D1021b**

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**Please note that all activities are mandatory, except the lectures. This also applies for PBL via Zoom. There, we mandate that you have your video camera and microphone on and active.**

## Course week 1 Genetics (normal)

### Monday 31/8

09.00-11.00 Introduction into PBL for foreign students, Zoom, Stefan Baumgartner

### Tuesday 1/9

09.00-09.30 Call. Stefan Baumgartner. Zoom. Meeting ID: 635 3557 2590

10.15-12.15 PBL-1 (see scheme).

13.00-15.00 Lecture: "*Basics of genetics and genomic variation*". Distribution of article for discussion. Kajsa Paulsson. Rune-Grubb hall, BMC.

15.00-17.00 Practical calculations: "*Recombinations and probabilities*". Kajsa Paulsson. Rune-Grubb hall, BMC

### Wednesday 2/9

10.15-12.15 Lecture: "*Studying inheritance through crossings and pedigrees*". Kajsa Paulsson. Rune-Grubb hall, BMC.

13.00-15.00 Practical calculations: "*Pedigrees and linkage analysis*". Kajsa Paulsson. Rune-Grubb hall, BMC.

### Thursday 3/9

10.15-12.15 Lecture: "*Population genetics and multifactorial diseases*". Kajsa Paulsson. Rune-Grubb hall, BMC.

13.00-15.00 Lecture: "*Genomics in medicine*". Emma Ahlqvist. Rune-Grubb hall, BMC

### Friday 4/9

08.15-10.00 Practical calculations: "*Hardy-Weinberg proportions and population genetics*". Kajsa Paulsson. Rune Grubb-hall. BMC.

Notify teacher of questions to be discussed on Monday.

### Monday 7/9

10.15-12.15 PBL-2 (see scheme). **Group 1: 08.00-10.00**

13.00-13.45 Discussion on ethical questions in genomic, based on the article. Kajsa Paulsson. Rune Grubb-hall, BMC.

14.00-15.00 Interactive summary lecture based on incoming questions on all aspects of genetics. Kajsa Paulsson. Rune Grubb-hall, BMC.

## Course week 2 Fertilization, cleavage / *C. elegans* (on-line)

### Tuesday 8/9

10.15-12.15 PBL-1 (see scheme).

13.00-14.30 Lecture: "*Overview of all weeks of the course*". "*Glossary for all weeks*". "*Concepts of Developmental Biology*". Stefan Baumgartner. On-line films.

14.30-17.00 Lecture: "*Gametogenesis, Fertilization*". Distribution of article for presentation. Stefan Baumgartner. On-line films.

**Wednesday 9/9**

09.15-12.15

Lecture: "*Cleavage*". Stefan Baumgartner. On-line films.

13.00-14.00

Lecture: "*C. elegans development*". Stefan Baumgartner, On-Line films.

14.00-15.00

Film "*Cell fate and cell lineages in C. elegans*". Stefan Baumgartner. On-line film.**Friday 11/9**

Notify teacher of questions to be discussed on Monday.

**Monday 14/9**

10.15-12.15

PBL-2 (see scheme). **Group 1: 08.00-10.00**

13.00-13.45

Article presentation group A. Stefan Baumgartner. Zoom.

14.00-15.00

Interactive summary lecture based on incoming questions on fertilization/cleavage and *C. elegans*. Stefan Baumgartner. Zoom.**Course week 3 Early development in invertebrates. (on-line)****Tuesday 15/9**

10.15-12.15

PBL-1 (see scheme).

13.00-15.00

Lecture: "*Early development in invertebrates I*".

Udo Häcker. On-line films.

**Wednesday 16/9**

10.15-12.15

Lecture: "*Early development in invertebrates II*". Udo Häcker.

On-line films.

**Friday 18/9**

Notify teacher of questions to be discussed on Monday.

**Monday 21/9**

10.15-12.15

PBL-2 (see scheme). **Group 1: 08.00-10.00**

13.00-13.45

Article presentation Group B. Udo Häcker. Zoom.

14.00-15.00

Interactive summary lecture based on incoming questions on early development in invertebrates, Udo Häcker. Zoom.

**Course week 4 Early development in vertebrates: amphibians and Evo-Devo. (on-line)****Tuesday 22/9**

10.15-12.15

PBL-1 (see scheme).

Distribution of questionnaire: "how does the PBL work for me?"

13.00-15.00

Lecture: "*Cell communication during development*". Distribution of articles for presentation. Udo Häcker. On-line films.**Wednesday 23/9**

09.00-10.00

Written exam for practical calculations. Kajsa Paulsson, Auditorium Genetics House

10.15-12.15

Lecture: "*Early development in vertebrates I: amphibians and fish*". Udo Häcker. On-line films.

**Friday 25/9** Notify teacher of questions to be discussed on Monday.

**Monday 28/9**

10.15-12.15

PBL-2 (see scheme). **Group 1: 08.00-10.00**

Hand questionnaire over to tutor.

13.00-13.45

Article presentation. Group C. Udo Häcker. Zoom.

14.00-15.00

Interactive summary lecture based on incoming questions on early development in amphibians and Evo-Devo, Udo Häcker. Zoom.

**Course week 5 Early development in vertebrates: birds and mammals. (on-line)**

**Tuesday 29/9**

10.15-12.15

PBL-1 (see scheme).

13.00-15.00

Lecture: "Early development in vertebrates II: birds and mammals".

Distribution of articles for presentation. Udo Häcker. On-line films.

Individual discussion with the tutor on performance during PBL via Zoom. Tutor allocates time.

**Wednesday 30/9**

10.15-12.15

Lecture: "Early development in vertebrates III: birds and mammals"

Udo Häcker. On-line films.

**Friday 2/10**

Notify teacher of questions to be discussed on Monday.

**Monday 5/10**

10.15-12.15

PBL-2 (see scheme). **Group 1: 08.00-10.00**

13.00-13.45

Article presentations. Groups D, E. Udo Häcker. Zoom.

14.00-15.00

Interactive summary lecture based on incoming questions on early development of birds and mammals, Udo Häcker. Zoom.

15.15-16.15

Re-exam for practical calculations. Kajsa Paulsson, Rune-Grubb hall, BMC.

**Course week 6 Neurogenesis. (mostly normal)**

**Tuesday 6/10**

10.15-12.15

PBL-1 (see scheme).

13.30-15.15

Lecture: "Formation of the nervous system; birth and migration of neurons and glia, determination of neural cell fate". Distribution of articles for presentation. Per Ekström. Auditorium Genetics House.

**Wednesday 7/10**

13.00-15.00

Lecture: "Formation of the nervous system; axon-outgrowth and - guidance, formation of synapses, trophic factors and survival". Per Ekström. Pathology lecture hall.

15.15-16.15

Lecture: "Formation of the eye". Per Ekström, Pathology lecture hall.

Notify teacher of questions to be discussed on Monday.

**Monday 12/10**

08.00-09.00

Article presentation. Groups F, G. Per Ekström. **Zoom**.

09.00-10.00

Interactive summary lecture based on incoming questions on neurogenesis, Per Ekström, **Zoom**

10.15-12.15

PBL-2 (see scheme). **Group 1: 13.00-15.00**

Prepare group reports, deadline Oct. 15, to be sent to Udo.

**Course week 7 Paraxial mesoderm, limb development and regeneration. (on-line)**

**Tuesday 13/10**

10.15-12.15

PBL-1 (see scheme).

13.00-14.00

Lecture: "*Paraxial mesoderm: The somites and their derivatives*". Edgar Pera. On-line films.

14.00-16.00

Lecture: "*Limb formation*". Distribution of articles for presentation. Edgar Pera. On-line films.

**Wednesday 14/10**

10.15-12.15

Lecture: "*Regeneration*". Edgar Pera. On-line films.

**Thursday 15/10**

Lab Report: DEADLINE! Send as PDF file to Udo.

**Friday 16/10**

Notify teacher of questions to be discussed on Monday.

**Monday 19/10**

10.15-12.15

PBL-2 (see scheme). **Group 1: 08.00-10.00**

13.00-14.00

Article presentation. Group H, I. Edgar Pera. Zoom.

14.00-15.00

Interactive summary lecture based on incoming questions on paraxial mesoderm, limb development and regeneration. Edgar Pera. Zoom.

**Course week 8 Organ biology / Environment & development. (on-line)**

**Monday 19/10**

15.00-17.00

PBL-1 (see scheme).

**Tuesday 20/10**

13.00-15.00

Development: "*Formation of mesoderm-derived organs: The heart and kidney*". Edgar Pera. On-line films.

**Wednesday 21/10**

10.00-11.00

Lecture: "*Development of the endoderm: The gut and accessory organs*". Edgar Pera. On-line films.

11.15-12.15

Lecture: "*Environment & development*". Stefan Baumgartner. On-line film.

**Thursday 22/10**      Notify teacher of questions to be discussed on Friday.

**Friday 23/10**

13.00-15.00

PBL-2 (see scheme).

15.00-16.00

Interactive summary lecture based on incoming questions on organ formation. Edgar Pera. Zoom.

For questions regarding the exam: please speak to the respective teacher directly, thanks.

Have you filled in your comments for the course evaluation that will be sent to you separately? ...thank you!

## **Exams and Evaluation meeting**

**Friday 30/10**

09.00-14.00

Exam + re-exam calculation exercises. Auditorium Genetics House. GOOD LUCK!

**Monday 9/11**

16.00-17.00

Course evaluation meeting with students, tutors and teachers. Zoom.

**Monday 16/11**

09.00-14.00

Re-exam. Rune-Grubb hall, BMC.

**Monday 7/12**

09.00-13.00

Re-exam. BMC D10

**PBL**

PBL	Day	Time	Group I Udo Häcker, D1015b Tel. 222 0864 0709 855 361	Group II Laurent Roybon D1024b Tel. and mobile 2229833	Group III Hooi Min Tan Grahn A1252 Tel. 222 05 89 0702 63 79 63
I	1/9	10.15-12.15	Zoom	Zoom	Zoom
II	7/9	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	8/9	10.15-12.15	Zoom	Zoom	Zoom
II	14/9	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	15/9	10.15-12.15	Zoom	Zoom	Zoom
II	21/9	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	22/9	10.15-12.15	Zoom	Zoom	Zoom
II	28/9	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	29/9	10.15-12.15	Zoom	Zoom	Zoom
II	5/10	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	6/10	10.15-12.15	Zoom	Zoom	Zoom
II	12/10	10.15-12.15	Zoom <b>08-10 !</b>	Zoom	Zoom
I	13/10	10.15-12.15	Zoom	Zoom	Zoom
II	19/10	10.15-12.15	Zoom <b>13-15 !</b>	Zoom	Zoom
I	19/10	15.00-17.00	Zoom	Zoom	Zoom
II	23/10	13.00-15.00	Zoom	Zoom	Zoom

**Group allocation for PBL, articles, chairpersons/opponents****PBL Group I Udo Häcker**

	article	chair/opp
Markus Aldén	A	I
Cornelia Börjesson Freitag	B	H
Nour Houda Chehab	C	E
Olivia Engstrand	D	G
Emmy Keysendahl	E	F
Clara Malmborg	F	D
Sofie Orell	G	C
Johan Wall	H	B
Josef Mallik	I	A

**PBL Group II Laurent Roybon**

	article	chair/opp
Martina Bardino Mörch	A	I
Andreas Bjure Mannshausen	B	H
Mona Dallal	C	E
Klara Esbo	D	G
Nils Lindblom	E	F
Leonora Raba	F	D
Zoi Parastatidou	G	C
Johanna Rodell	H	B

**PBL Group III Hooi Min Tan Grahn**

	article	chair/opp
Emanuel Behi Åkesson	A	I
Anna Cederberg	B	H
Tyra Davidsson Bremborg	C	E
Melisa Husein	D	G
Camilla Ly	E	F
Teodor Nyman	F	D
Olivia Ritsvall	G	C
Mathilda Nilsson	H	B
Robin Åström	I	A