

**2017/2018 year**  
**Developmental Biology I (fall semester)**

**Director of course:** *Imre Oláh MD, PhD*

**Code:** AOVANT457\_1A

**Credit points:** 3

**Type of course:** elective

**Topics of the course:** Molecular regulation of ontogeny and developmental malformations. Teratogenesis.

**Place and time of course:** Huzella Auditorium in the Department of Anatomy, Histology and Embryology (Túzóltó u.58), second floor, every Thursday, 16:30-18:00.

- 1) Introduction to developmental biology and its significance in medical curriculum  
14<sup>th</sup> September (*Imre Oláh*)
- 2) Experimental methods of developmental biology  
21<sup>th</sup> September (*Nándor Nagy*)
- 3) Beginning of developmental biology. Organization centers, Spemann organiser and its molecular background.  
28<sup>th</sup> September (*Ildikó Bódi*)
- 4) Regulatory factors in ontogeny I. Transcription factors and Hox genes, segmentation of the body.  
5<sup>th</sup> October (*Krisztina Herberth-Minkó*)
- 5) Regulatory factors in ontogeny II. Signal molecules. Growth factors.  
12<sup>th</sup> October (*Krisztina Herberth-Minkó*)
- 6) Regulatory factors in ontogeny III. Epigenetic effects, DNA methylation, imprinting.  
19<sup>th</sup> October (*Krisztina Herberth-Minkó*)
- 7) Stem cell biology and regeneration  
26<sup>th</sup> October (*Nándor Nagy*)
- 8) Cell-cell interactions, extracellular matrix, adhesion molecules and integrins in the early embryo.  
2<sup>nd</sup> November (*Katalin Kocsis*)
- 9). Epithelial morphogenesis: role of basal membrane in cell migration, branching of epithelia.  
9<sup>th</sup> November (*Katalin Kocsis*)
- 10) Germ cell line determination: specification, migration, development  
16<sup>th</sup> November (*Dávid Dóra*)
- 11) Gastrulation  
23<sup>th</sup> November (*Katalin Kocsis*)
- 12) Patterning of mammalian embryo: antero-posterior and dorso-ventral patterning  
30<sup>th</sup> November (*Nándor Nagy*)
- 13) Formation of embryonic mesoderm  
7<sup>th</sup> December (*Imre Oláh*)
- 14) Human reproductive biology (Brain sex)  
14<sup>th</sup> December (*Imre Oláh*)