Sensory & motor development seminar

Course # 101-2-0298

The semester will start with introductory lectures about sensory and motor systems and research techniques, which will be followed by weekly presentations of scientific papers by the students. The goal of the course is to explain fundamental issues in brain development and expose the students to neuroscience research about the development of sensory and motor systems. We will discuss examples of neuroimaging studies in humans and electrophysiology studies in animals. The necessary methodological background will be covered when discussing each of these topics. Each student will present a scientific paper (30% of the final grade) and write a final paper, which will contain a proposal for future research (70% of the final grade).

Attendance in **80%** of the classes is obligatory.
Passing grade is 65.
Instructions for how to build a presentation for your scientific paper can be found here.
Instructions for how to write your final paper can be found here.
There are no scheduled office hours. If you want to speak with me please email me first.

Lesson 1: Introduction to sensory systems – Presentation

Lesson 2: Introduction to the motor system - Presentation

Lesson 3: Introduction to brain development – Presentation

Lesson 4: Development of visual orientation selectivity - Sharma, Nature 2000 & Sengpiel, Nature 1999

Lesson 5: Amblyopia and Strabismus - Li, PLOS Bio 2011

Lesson 6: Development of face processing - Golarai, Nat Neuro 2007 & Pascalis, Science 2002

Lesson 7: Auditory development - Chang, Science 2003 & Sharma, Hearing Res 2005

Lesson 8: Stress and brain development - Lupien Nat Rev Neurosci 2009

Lesson 9: Affects of maternal deprivation - Liu, Nat Neuro 2000, Ellenbroek, Bio Psych 2004
Lesson 10: Importance of sensory enrichment - Praag, Nat Rev Neuro 2000, Sheridan, PNAS 2012
Lesson 11: Motor system development - Olveczky, PLOS Biology 2005, Martin, Neuroscientist 2005

Lesson 12: Neural plasticity in children and adults - Bavelier, J Neurosci 2010