NUIN 470: Cellular and Molecular Mechanisms of Information Storage (Spring 2016; Thursdays 9am-12pm); Venue Chicago Campus Rm TBD

Course director: Anis Contractor (a-contractor@northwestern.edu)

Course Description: This is a literature-based course designed to give students a framework to understand the current state of our knowledge about the cellular to system basis for information processing and storage. Weekly classes will be facilitated by faculty experts in specific areas of neural plasticity and information storage. Students will read papers assigned by the lecturer before each class and submit two relevant questions to for each paper (to then be discussed in class). Thus, seminal papers on each topic will be considered in class, whilst an overview of the important questions will be provided by the faculty facilitator. In each lecture consideration will be given how the information reviewed can be translated to problems related to issues of mental health.

Topics to be covered:

03/31/16 Neurogenesis in the hippocampus, what is it good for? Anis Contractor
04/07/16 No class (Anis Out of Town)
04/14/16: TBD Richard Miller
04/21/16 Motor learning and plasticity in the cortex Gordon Shepherd (new papers can be uploaded)
04/28/16 Sensory systems and information processing: Sleep and smell Jay Gottfried
05/05/16 CA1 Plasticity and navigation: sharp wave pre-play and replay. Dan Dombeck
05/11/16 (Day change Wed morning) “Sex Differences in Mechanisms of Synaptic Modulation.” Catherine Woolley
05/19/16: The hippocampus and memory Joel Voss
05/26/16 Basal ganglia plasticity and related disorders Mark Bevan
06/02/16 Substrates for anxiety-based learning; Jelena Radulovic
06/06/14 Final Examination.