

BBB seminar (BMED380)

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How the environment impacts the developmental trajectories of limbic brain regions

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Brain development is directed by genes but sculpted by individual experience. This is also the case for limbic brain regions, which are crucial for our emotional behaviors. Indeed, the protracted development of limbic brain regions ensures the acquirement of complex emotional behaviors but may come at the cost of increased vulnerability to environmental adverse events. In this talk, I will use the example of amygdala – medial prefrontal cortex circuitry development to illustrate how environmental adversity, including threats and neglect, may sculpt the structure and function of this circuitry. Based on numerous studies in animal models and humans, I will argue that these environmental adversities influence the pace of limbic brain development. Although such adaptations may be advantageous in an evolutionary context, they may also increase the risk of developing a mental illness, most notably anxiety and depression. Thus, understanding how environmental adversities influences limbic brain development, may be a crucial step towards developing biologically informed prevention and intervention strategies for these common mental disorders.

Chairperson: Ruth Brenk <ruth.brenk@uib.no>, Dept. of Biomedicine