

## **Abstract**

Neural crest (NC) is a structure arising from the neural plate borders during the the process of neurulation. From there neural crest cells migrate and differentiate into broad types of cells and tissues almost all over the body. These cells contributes on the building of skull, jaws and many other structures.

The aim of this thesis is to summarize recent findings about neural crest cells and their impact during the development of head and heart, their migration and differentiation in these part of the body with a special aim to gene regulatory network and signals from surrounding cells. Study of these cells is key for elucidating genetic mutations or cancer.