

## Various notions of canalization – a review

Claus Kadelka, Iowa State University

The concept of canalization in gene regulation was proposed by Waddington as a possible answer to the question of how the outcome of embryonal development can lead to predictable phenotypes in the face of widely varying environmental conditions, as well as frequent genetic mutations. Kauffman introduced canalizing functions as suitable update rules of Boolean gene regulatory network models. Since then, several competing definitions of canalization have been introduced. In this talk, I will review and compare these different notions of canalization. Ultimately, this research aims to identify the mathematical definition of canalization that best matches the biological concept.