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Research project summary

C. elegans ventral nerve cord (VNC) assembly as a model for neural tube formation and pathology

- Principal Investigator: Antonio Colavita
- Awarded $757,350 from the Canadian Institutes of Health Research (CIHR) in January 2018

Neural tube formation is an early event in the development of the brain and spinal cord. Disruption in neural tube formation results in birth defects such as spina bifida. Neural tube defects are among the most common human birth defects. We propose to study the development of the central nerve cord, called the ventral nerve cord, in C. elegans, a microscopic worm, in order to learn more about how the human neural tube forms. We have recently discovered that formation of the neural tube in mammals and the central nerve cord in C. elegans use many of the same genetic pathways. Therefore, by studying this process in C. elegans, which offers many advantages in terms of ease of use and powerful techniques, we hope to learn more about how the human nervous system develops.

Back to summary of all grants awarded to The Ottawa Hospital in this competition (January 2018)