Ram Mishra ,MS, PhD

McMaster University | **HEALTH SCIENCES**
Psychiatry & Behavioural
Neurosciences

Research Work

Dr. Ram Mishra is a Professor in the Department of Psychiatry and Behavioural Neurosciences and Co-Director, School of Biomedical Engineering at McMaster University. He is internationally well known for his work on dopamine and peptide receptors, drug development and drug delivery for CNS disorders. He has won numerous prizes and career awards, including "Excellence in Graduate Supervision (2012), "Excellence in Mentorship" (2015), and "Excellence in Graduate Teaching" (2017). His work has been extensively published in various top tier peer-reviewed journals. Research in Dr. Mishra's laboratory focuses on the relationship between genetic, biochemical and molecular mechanisms and neuropsychiatric disorders such as schizophrenia and Parkinson's disease. The research team is particularly interested in the role of dopamine receptors in various disease processes, where understanding the molecular basis of their dysfunction could contribute to potential improvements in either disease detection or treatment. He currently supervises graduate and undergraduate students working on various projects in collaboration with the faculty in Biomedical and Chemical Engineering.

Current Research Projects Include:

- Role of Synapsin II in the pathophysiology of Schizophrenia: Recent efforts have led to the discovery of novel mechanisms suggesting that Synapsin II may be one of the underlying causal factors in the pathophysiology of schizophrenia.
- Development of allosteric drugs targeting dopamine D2L receptors: Recent work has led to the discovery of novel compounds that may be useful for the treatment of negative, positive and cognitive symptoms of schizophrenia. Drug development for movement disorders.
- Investigation of the mechanisms involved in the action of mood stabilizers.
- Examination of the role of neurotrophins in movement disorders and schizophrenia treatment.

Engagement Opportunities

Introductory Level
- Literature search
- learn to develop methods

Intermediate Level
- Data analysis
- Data interpretation

Advanced Level
- Wet-Lab experiments for gene expression
- Drug Delivery

If you are interested in learning more, please leave your contact information with the Research Office and/or contact Dr. Ram Mishra at mishrar@mcmaster.ca