



Faculty
of
Medicine

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Major Research Interests:

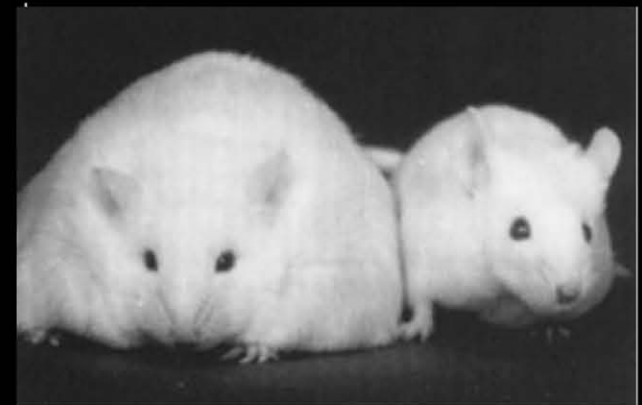
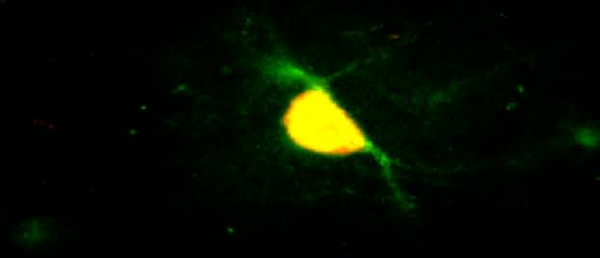
⇒ Central control of body weight and hormonal (neuroendocrine) regulation of pregnancy and lactation

The brain has a homeostatic (“equilibrium”) mechanism to maintain body weight as well as a reward circuit to motivate us to eat so that we do not starve to death.

We are focused on understanding the way neurons in the *hypothalamus* link these functions of homeostasis and reward.

An imbalance in this mechanism is blamed for the current obesity epidemic around the world.

We are also interested in rewiring capacity (synaptic plasticity) of neuroendocrine cells that support pregnancy and lactation.



The main techniques used
by neuroscientists at Memorial University include:

- ◇ Neuronal cell cultures to investigate signal integration within cells
- ◇ Protein and hormone assays
- ◇ Implanted body probes to monitor physiological parameters such as heart rate and brain temperature
- ◇ Animal models of stroke and neuropsychiatric disorders
- ◇ Sensitive tests of sensory-motor, cognitive and emotional (stress) behaviour in healthy and brain-injured (e.g. stroked) rodents
- ◇ Electrical recording (patch-clamp method) to measure activity of individual brain cells
- ◇ Specialized staining procedures to identify locations and amounts of proteins or specific cell types in the brain