

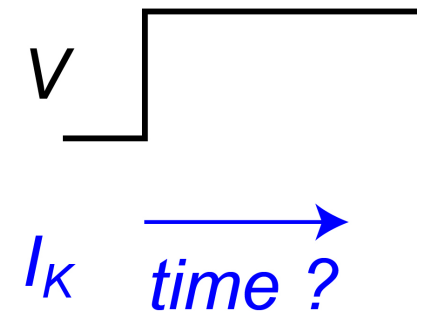
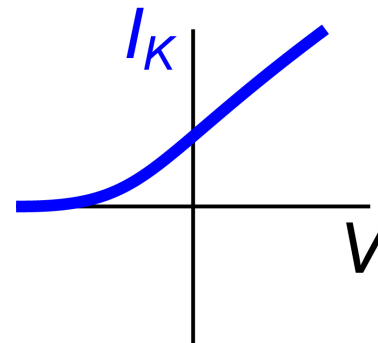
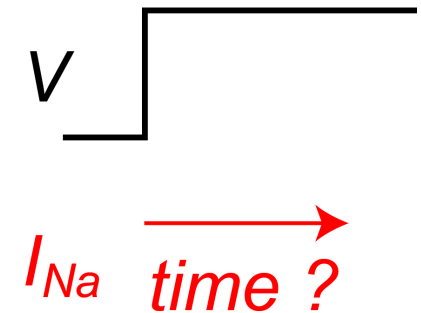
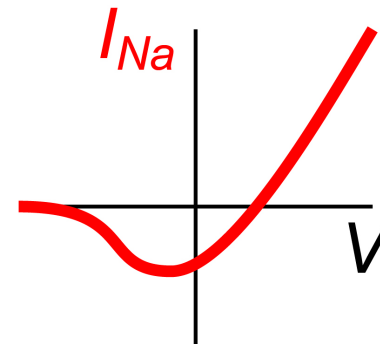
2.2 Voltage-gating kinetics

Cellular Mechanisms of Brain Function

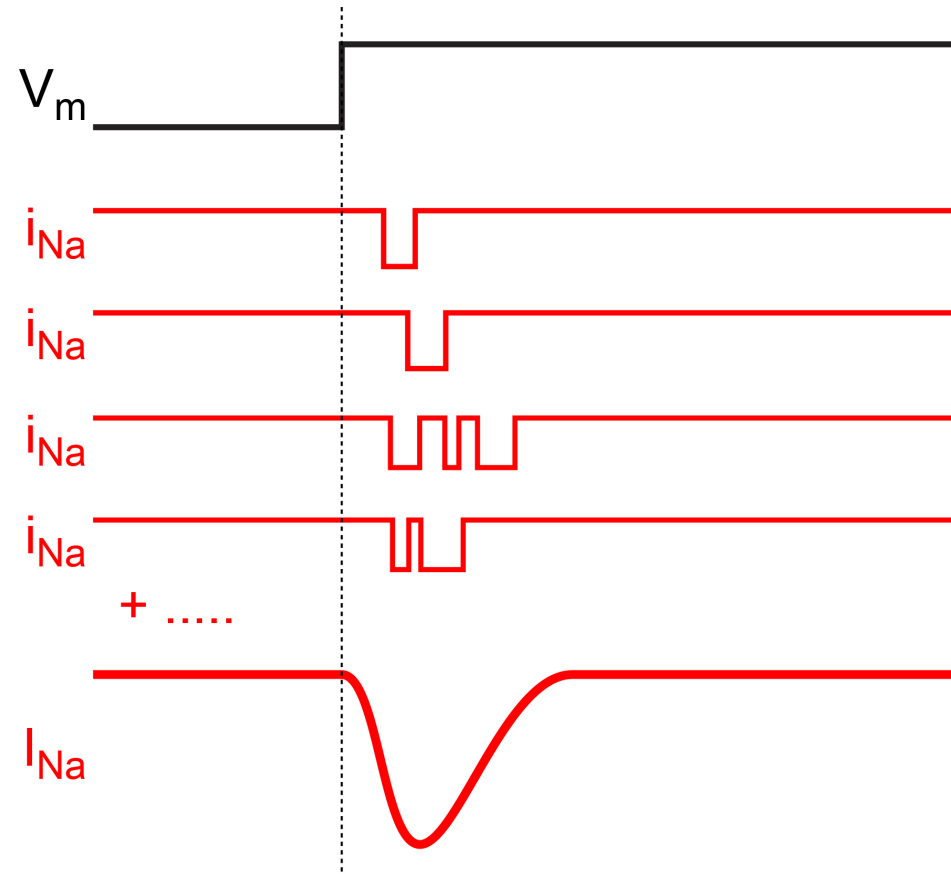
Prof. Carl Petersen

Voltage-gating kinetics

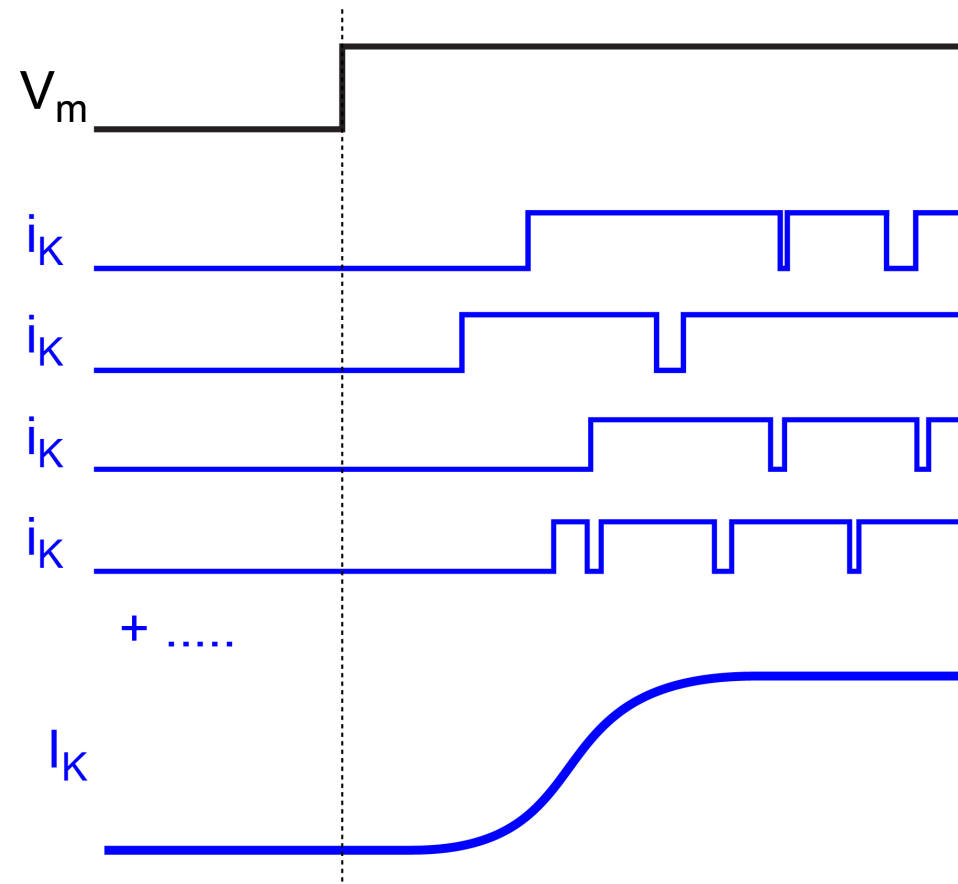
Voltage-gating kinetics of Na⁺ and K⁺ channels



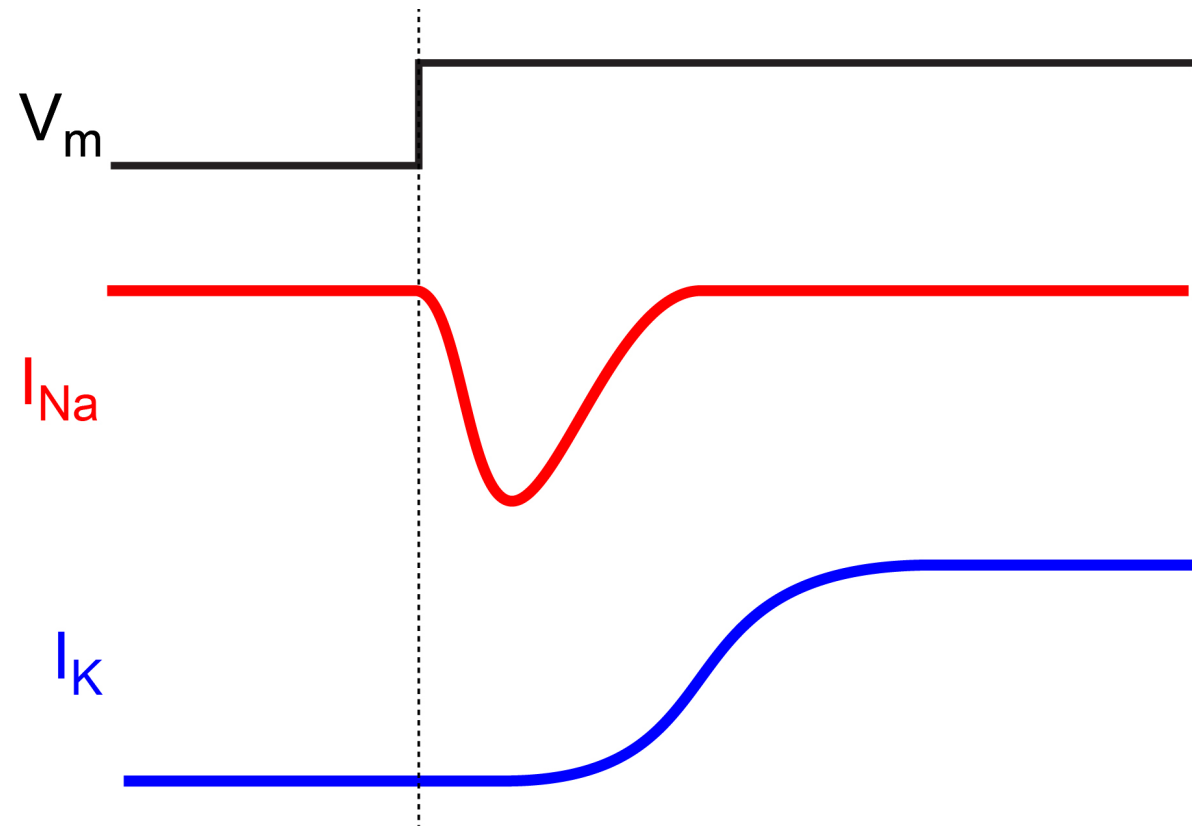
Voltage-gated Na^+ channel kinetics



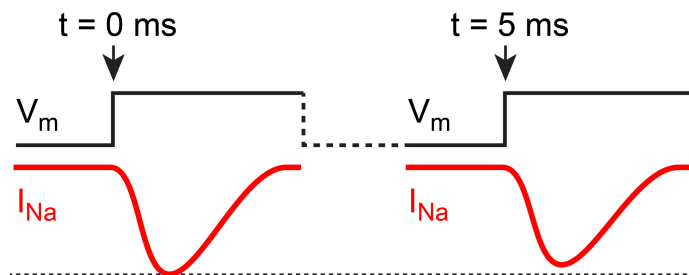
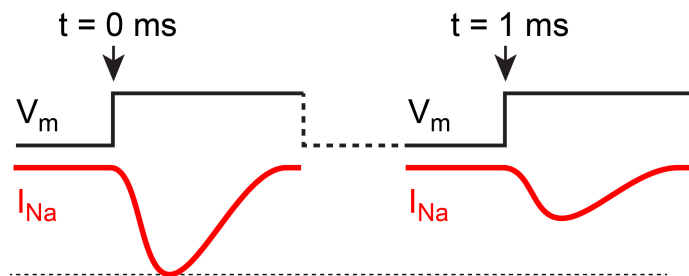
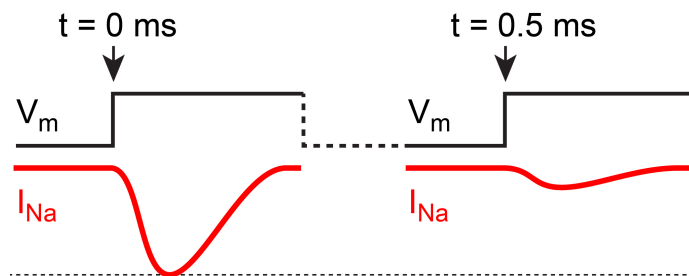
Voltage-gated K^+ channel kinetics



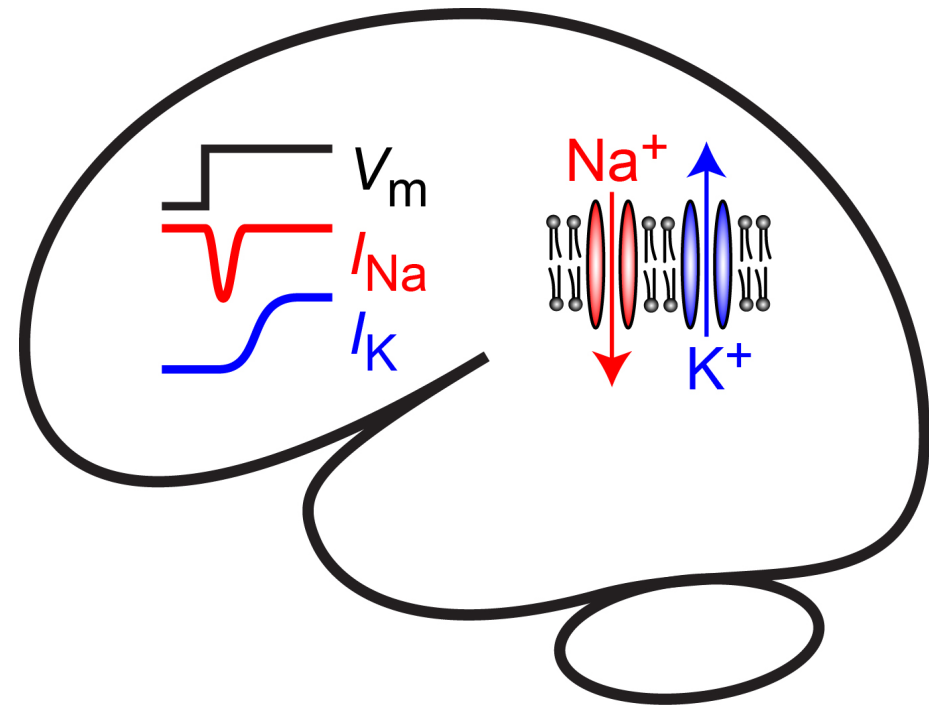
Kinetics of voltage-gated Na^+ and K^+ currents



Recovery from inactivation



Voltage-gating kinetics of Na^+ and K^+ channels



Na⁺ channel diversity

K⁺ channel diversity

Membrane potential dynamics

Voltage-gating kinetics of Na⁺ and K⁺ channels

- Voltage-gated Na⁺ channels open rapidly in response to depolarisation, and then inactivate rapidly.
- Voltage-gated K⁺ channels are activated more slowly by depolarisation, but they do not inactivate.