Electrical Disequilibrium

- Given [ions]_{ICF} & [ions]_{ECF}, calculate: absolute charge, relative charge & membrane potential difference
- For an ion, determine direction of concentration gradient, electrical gradient and point of balance (Nernst Equilibrium potential)
- Predict the movement of an ion through an open channel

Diffusion along a concentration gradient

Electrical gradient also for ions
Nernst equation:

\[ E_{\text{ion}} = \frac{61}{\text{charge}} \log \left( \frac{[\text{ion}]_{\text{ECF}}}{[\text{ion}]_{\text{ICF}}} \right) \]

\( E_{\text{ion}} \) gives the membrane potential difference that would balance the concentration gradient.