**Long-term Goal:** Understand how randomly oriented block copolymer grains affect transport properties of relevant species

**Current Goal:** Use SAXS to study how polymer membranes respond to external electrolytes. This tool can provide information on the charged state of the hydrated membrane.

**Findings:** Swelling the commercial membrane Nafion in external electrolyte showed that there is a large fraction of condensed counterions. Extension of this technique to block copolymers and how this effects performance is underway.