## "Integrated structural studies of sacsin using electron microscopy and crystallography" Progress report - Gehring laboratory 24 November 2017

- 1) Expressed and purified three Sacsin internal repeats fragments from Sf9 cells. Prepared baculovirus stock for expression of full-length sacsin.
- 2) Received additional panel of 4 single-chain antibodies against Sacsin from Structural Genomics Consortium (Susanne Gräslund, Karolinska Institute) for co-crystallization trials.
- 3) Modeled Sacsin R272C mutation and measured stability of mutant proteins for publication in preparation by Brais laboratory.
- 4) Studied cultured Purkinje neurons isolated from mouse pups to study the ultrastructural and population changes between wild type and Sacsin knock out mice in collaboration with McKinney and Watts groups. Studying cell populations in wild-type and Sacsin knock out mice using single cell suspensions quantified by flow cytometry.
- 5) Provided purified Sacsin fragments for study of effects on intermediate filament assembly and dynamics for manuscript in preparation by Durham laboratory.