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The Center for Structural Molecular Biology at Oak Ridge National Laboratory. V.S. Urban[1], W.T. Heller[1,2], G.W. Lynn[1,2], P.D. Butler[2], G.D. Wignall[2], M.V. Buchanan[1] , D.A.A. Myles[1], [1]Chemical Sciences Div. , [2]Condensed Matter Sciences Div., Oak Ridge National Laboratory, Oak Ridge, TN 37831.

A Center for Structural Molecular Biology (CSMB), funded by the U.S. Department of Energy's Office of Biological and Environmental Research, has been established at Oak Ridge National Laboratory (ORNL). The CSMB will integrate existing strengths in neutron sciences at ORNL with new capabilities in computational biology and stable isotope labeling of proteins and make them available to a broad user community. The cornerstone of the CSMB is a small-angle neutron scattering instrument (Bio-SANS) currently under construction at the ORNL High Flux Isotope Reactor. Bio-SANS will have a neutron flux and performance that is unprecedented in the US and that will provide the user community with world-leading capabilities in the field. The development of new computational methods for the analysis of biological scattering data and of facilities for the selective H/D labeling of complex macromolecular assemblies will provide the tools necessary to fully exploit these advantages in the application of SANS to complex problems in biology. Bio-SANS will be a critical resource for the US structural biology community and the CSMB will provide a wide range of scientific and educational opportunities.