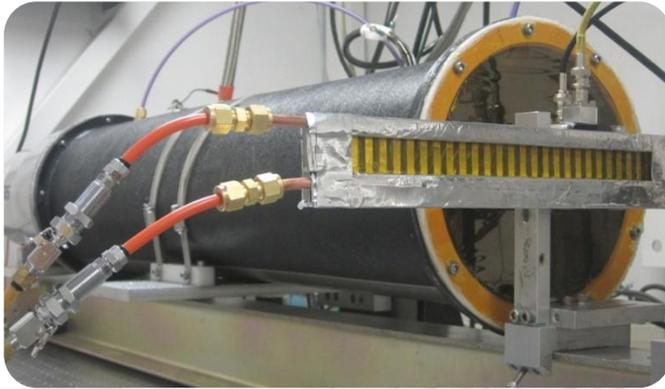


# Beamline 1-4 Sample Environments: Temperature Controllable Capillary Holder



**Device:** Multi-Capillary Holder

**Use:** In-situ transmission SAXS studies of fluid, gel, powder samples or colloidal suspensions

**Capacity:** Drivable in x through 240 mm (24 sample positions) in x and in y through more than a capillary length. Temp control:  $25\text{ }^\circ\text{C} < T < 90\text{ }^\circ\text{C} \pm 2\text{ }^\circ\text{C}$

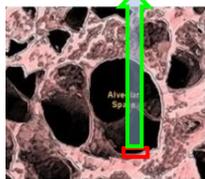
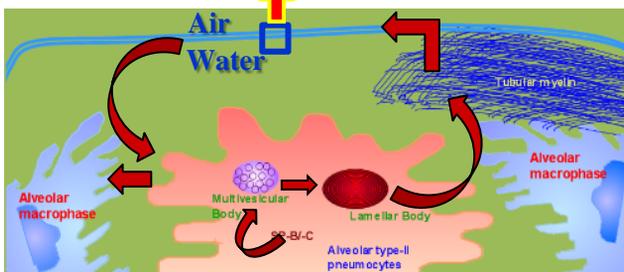
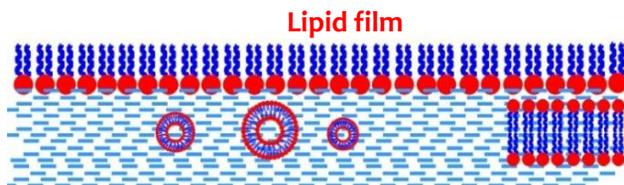
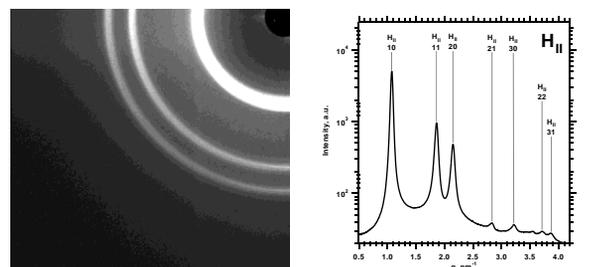
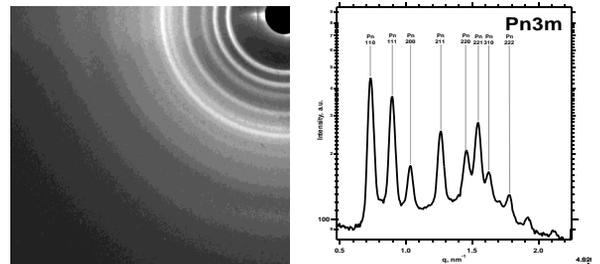
## Showcase Project:

### Structural Effects of Surfactant Proteins on Lipid Bilayers

M. Chavarha, L.E. Schulwitz Jr., K. Kumar, R.W. Loney, H. Khoojinian, S.C. Biswas, S.B. Rananavare, S.B. Hall

Pulmonary surfactant lowers surface tension in the alveoli of the lungs, preventing alveolar collapse and maintaining bronchial functionality. Two essential hydrophobic proteins, SP-B & SP-C, promote rapid adsorption by the surfactant lipids to the air/water interface.

Small amounts of protein induce lamellar lipids to form curved structures.



Alveolus in the Lung

