

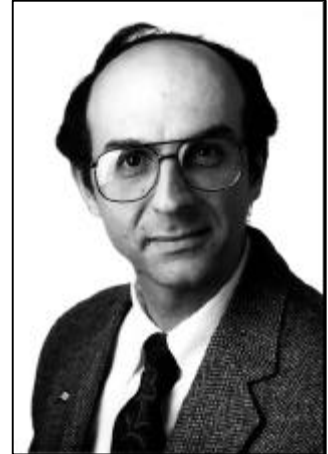
PAUL BUMMER, Ph.D.

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Research Interests

Dr. Bummer's research centers around the interfacial activity and structure of proteins at various surfaces of pharmaceutical interest. Surfaces such as glass, polymers and the air/water interface are all known to denature proteins of therapeutic value, resulting in loss of biological activity and particulate formation. The research efforts are designed to determine the mechanisms(s) of the denaturation and to study formulation strategies capable of stabilizing these products.

Protein activity at surfaces of biological interest is also under examination. In particular, the biophysical mechanisms by which serum proteins diminish the activity of lung surfactant is being studied. Results of this research will directly benefit the design of new surfactant replacement therapies employed in the treatment of neonatal and adult respiratory distress syndromes.



Research Publications/Presentations

P.M. Bummer, "Structural Aspects of Human Serum Albumin Adsorbed to Polysulfone" in review *J. Membrane Sci* (1995).

P.M. Bummer, L.P. Sanders, T. Pauly and M.N. Gillespie, "In Vitro Inactivation of Pulmonary Surfactant Replacement Preparations by Serum Albumin." *Am. J. Med. Sciences*, 307, 401-404 (1994).

P.M. Bummer and B. Bolser, "Determination of Association Constants of Phenol Derivatives with Diphenylsulfone", in review *Int. J. Pharm. Adv.*, (1995).