

Singapore Stanford Partnership Programme

MS Project MS08-22

Fouling of UF Membranes by Biological Macromolecules

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Progress in the development of new and improved membranes depends on our detailed understanding of the complex physical, chemical and biological processes that occur at the surface of and within the membrane. This proposed project aims to elucidate these processes through closely coordinated laboratory tests and model development. A suite of model foulants, including soluble, polymeric, and colloidal materials will be used to probe the impact of foulant uptake on membrane performance. Results will be evaluated using new and existing fouling models. The overall goal of the proposed research is to achieve a fundamental understanding of the physical, chemical, and biological processes that occur at the membrane-water interface, which is a precondition for improved membrane design and operational procedures.