Prof. Ponisseril Somasundaran

La von Duddleson Krumb Professor
Director, IUCRC for Advanced Studies in Novel Surfactants
Director, Langmuir Center for Colloids and Interfaces
Director, Center for Particulate and Surfactant Systems
Columbia University, New York, N.Y. 10027

Professor P. Somasundaran received his M.S. and Ph.D. from the University of California at Berkeley. He was the Chairman of the Henry Krumb School and Chair of Dept. of Chemical Engineering, Material Science & Mineral Engineering. Areas of interest: minerals, surfactants, polymers, proteins, emulsions, dispersion, deposition, wettability, detergency, adsorption, biofuels/biosolars, nanotoxicity and so on.

He was inducted in l985 into the ***National Academy of Engineering,*** among the highest professional distinction that can be conferred to an engineer at that time and later to the ***Chinese, Indian, Russian and Balkan/MT National Academies*****.** He is the recipient of the Gaudin Award, the Richards Award, the Taggart Award of AIME, "Most Distinguished Achievement in Engineering" award of AINA, the ***"Ellis Island Medal of Honor"*** in 1990 and the Engineering Foundation's Aplan Award, the **AIME Mineral Industry Education Award,** and **American Institute of Chemical Engineers Fellowship. In 2010 he was awarded the Padma Shri, a high civilian titles, by the Indian government.** He is the author/editor of fifteen books and of over 700 scientific publications and patents. He is the honorary editor-in-chief of the international journal ***"Colloids and Surfaces"*** and the editor of the ***"Encyclopedia of Surfactant and Colloid Science."*** He was the Chairman of the ***Board of the Engineering Foundation***, Society of Cosmetic Scientists committee on scientific affairs, and many university and government panels.

Lecture – Solid and Hazardous Waste Treatment and Management

Waste treatment and management has been a challenge for most countries nowadays, especially with the advancement of industrialization and prosperity of human lives. Traditional waste generated have been mainly dealt with by landfill or by incineration, which are criticized for unsustainable development and causing additional environmental problems, such as underground water pollution and greenhouse generation. Nowadays the type of waste has dramatically multiplied and the difficulty, thus, has been increased as well. The treatment and management of waste warrants the current policymakers, decision makers and researchers to deeply equilibrate and come up with the optimal strategy. In this lecture, various aspects of waste treatment and management will be elaborated, including the basic definition and classification for the different types of waste, current political environment for the waste treatment, fundamental physical/chemical/biological properties of the waste, methods for waste treatment and management, and future pathways for the enhanced waste management. Through the lecture and the discussion followed, ideas on how to improve the current situation of waste treatment are expected and promising to be implemented in China as well as all over the world.