

The Department of Chemical Engineering is organizing a seminar as per the following details.

All interested are cordially invited to attend.

Title: Adhesion Science: Recent Developments and Prospects

Speaker: Dr. Kash Mittal, Former Editor-in-chief: Journal of Adhesion Science and Technology, Former Editor-in-chief: Reviews of Adhesion and Adhesives

Date and Time: Wednesday, 22nd January 2025 from 16:00-17:00

Venue: L-10

(Tea will be served at 3:45 pm)

Abstract: The subject of adhesion is veritably inter-, multi- and transdisciplinary: and for a holistic approach to adhesion, a synergistic interaction is required among the various disciplines involved, viz., surface chemistry, rheology and fracture mechanics. Even a cursory look at the literature will evince that there has been a quantum jump in our knowledge of why and how things stick together, and all signals indicate that this trend will continue unabated.

There have been recent exciting developments in many facets of adhesion science and a complete discussion of all these will be prohibitively long. So, in this talk, the recent advances in the following areas will be discussed: acid base interactions and their relevance to adhesion, investigation of interfacial interactions, polymer surface modification, coupling agents or adhesion promoters, and super hydrophobicity. As an epilogue, some of the unsolved problems which need intensified R&D efforts will be highlighted. As for the future of adhesion science, the prospects look very bright and the fraternity of adhesionists (stickologists) will keep on growing at a high pace.

About the Speaker: Dr. Kashmiri Lal Mittal was associated with the IBM corporation from 1972 through 1994. Currently, he is teaching and consulting worldwide in the broad areas of adhesion as well as surface cleaning. He has initiated, organised and chaired a large number of international symposia, and is the editor of 150 published books dealing, inter alia, with adhesion measurement, adhesion of polymeric coatings, polymer surfaces, adhesive joints, adhesion promoters, thin films, polyimides, surface modification, contact angle and wettability, surface cleaning, and surfactants. He has received many awards and honours, is a Robert L. Patrick Fellow of the Adhesion Society, and is listed in many biographical reference works. He was the Editor-in-Chief of the International Journal of Adhesion Science and Technology until April 2012 and is/has been a member of the editorial boards of a number of scientific and technical journals. Dr Mittal was recognised for his contributions and accomplishments by the worldwide adhesion community by organising in his honour on his 50th birthday the first International Congress on Adhesion Science and Technology in Amsterdam in 1995 (235 papers from 38 countries were presented). In 2002 he was honoured by the global surfactant community by inaugurating the Kash Mittal Award in the surfactant field in his honour for his large efforts and significant contribution to the field of colloid and interface chemistry. In 2003 he was honoured by the Maria Curie Skłodowska University, Lublin, Poland by awarding him the title of doctor honoris causa. In 2006 was recognised by dedicating Volumes 124-126 of the Advances in Colloid and Interface science in his honour on his 60th birthday. In 2010 he was recognised for publication of his 100 edited books by two symposia

held in his honour: Symposium on Recent Advances in Adhesion Science and Technology, held at the American Chemical Society meeting in Boston, and Symposium on Surfactant Science and Technology: Retrospects and Prospects, held in Melbourne, Australia. A Special Issue of Colloids and Surfaces A (Vol. 391, Issues 1-3, Nov. 5, 2011) was dedicated to him to honour the publication of his 100th edited book. In 2014 he was elected an Honorary Fellow of the Indian Chemical Society. Also in 2014, two books were published in his honour.

He founded the journal entitled "Reviews of Adhesion and Adhesives" (RAA) as well as the new book series entitled "Adhesion and Adhesives: Fundamental and Applied Aspects." He was Editor-in-Chief of RAA until June 2022.