

DINESH O. SHAH, Ph.D.**Emeritus Professor of Chemical Engineering & Anesthesiology**

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Research Interests

Current research interests include: monomolecular films, foams, wettability and contact angle, microemulsions, liquid crystals, enhanced oil recovery, combustion of coal dispersions in oils and aqueous media, surfactant-polymer interactions, lubrication and surface phenomena in magnetic media, preparation of nanoparticles using microemulsions, enhanced filtration of viruses and nanoparticles by surface modification of filters, enzymatic reactions in micellar, microemulsion and liquid-crystalline systems, surface phenomena in membranes, lungs, vision, transdermal drug delivery, and anesthesia; nanoparticles for detoxification of blood, Nanomedicine.

Educational Background

1965	Ph.D.	Biophysics, Columbia University, New York City, NY, USA
1961	MS	Biophysics, University of Bombay, India
1959	BS	Physics-Mathematics, University of Bombay, India

Professional Experience

2000-Present	Professor of Chemical Engineering & Anesthesiology
1996- 2000	Charles A. Stokes Professor of Chemical Engineering & Anesthesiology
1987-1991	Chairman, Department of Chemical Engineering, University of Florida
1975-1996	Professor, University of Florida
1972-1975	Associate Professor, University of Florida
1970-1972	Assistant Professor, University of Florida
1968-1970	Research Associate, Columbia University
1967-1968	NRC-NASA Research Associate, NASA Ames Research Center
1965-1967	Research Associate, Columbia University

Short Courses

The following Intensive Short Courses (1 to 3 days) were presented to various corporate R & D and technical staff members by Professor Shah.

- Surface Chemistry in Petroleum Technology, (Sun Oil Company)
- Surface Chemistry in Textile Technology, (Milliken Research, Inc.)
- Surface Science in Food Technology, (Kraft General Foods Company)
- Surface Science in Pharmaceutical Technology (Alcon laboratories, Inc.)
- Surfactants: Principles and Technological Applications, (Eighteen times at UF Center for Surface Science and Engineering for R & D Staff from Industry, from 1984 to Present)
- Foaming and Anti-Foaming: Surface Chemistry in Action!! (The Procter & Gamble Company, 10 times in USA and UK).

Publications

Dr. Shah has contributed 10 books, 6 patents, and has over 250 research papers in referred journals, monographs and books.

Books

1. Adsorption and Molecular Aggregation in Surfactant Solutions, editors, K. L. Mittal and D. O. Shah, Marcel Dekker Publishers, 2002
2. Handbook of Applied Surface and Colloid Chemistry, editors, Krister Holmberg, Dinesh O. Shah, and Milan J. Schwuger. Volume I, pp. 1-537; Volume II, pp. 1-467, 2002 JohnWiley & Sons, Ltd., Publishers.

3. Micelles, Microemulsions, and Monolayers, Shah, D.O. (Ed.), Marcel Dekker, Inc., New York, 1-610, 1998
4. Dynamic Properties of Interfaces and Association Structures," editors, V. Pillai and D.O. Shah, pp. 1-217, A monograph published by American Oil Chemists Society Press, May, 1996
5. "Surfactants in Solution," Vol. 11, editors K.L. Mittal and D.O. Shah, Plenum Press, New York, pp. 1- 703, 1991.
6. "Surfactants in Process Engineering," editors, D.T. Wasan, M. Ginn and D.O. Shah, Marcel-Dekker & Co., New York, pp. 1-485, 1998.

Representative Papers

D. O. Shah has published over 250 papers in scientific journals, monographs and books. The majority of his publications are on monolayers of lipids, microemulsions, nanoparticles, solid/liquid dispersions, enhanced oil recovery by surfactant-polymer flooding, artificial tears and contact lens solutions, foams and lubrication. Among these papers, he considers the following papers among his most recent significant.

- 2002 **Invited Feature Article** on "Importance of Micellar Kinetics in Relation to Technological Processes", A. Patist, J. Kanicky, P. K. Shukla, and D. O. Shah, J. Colloid Interface Sci. 245, 1-15.
- 2001 "Improved Drug Delivery Using Microemulsions: Rationale, Recent Progress, and New Horizons," R. P. Bagwe, J.R. Kanicky, B. J. Palla, P.K. Patanjali, and D.O. Shah, *Critical Reviews in Therapeutic Drug Carrier Systems*, 16(1):77-140,.
- 2000 "Correlation of Particulate Dispersion Stability with the Strength of Self-Assembled Surfactant Films", Joshua J. Adler, Pankaj K. Singh, Alex Patist, Yakov I. Rabinovich, Dinesh O. Shah, and Brij M. Moudgil, Langmuir 16(18), 7255-7262.
- 2000 "Unity in Diversity in Interfacial Phenomena," Alexander Patist, Seong-Geun Oh, S.Y. Shiao, Tien-Feng Ling, Hyeon K. Lee, M.K. Sharma, Surekha Devi and D.O. Shah, in Emulsions, Foams, and Thin Films, (ed. K. L. Mittal and P. Kumar), Marcel Dekker, Inc. pp 31-57.
- 2000 "Cooperativity Among Molecules at Interfaces in Relation to Various Technological Processes: Effect of Chain Length on the pKa of Fatty Acid Salt Solutions," J. R. Kanicky, A. F. Poniatowski, N.R. Mehta and D. O. Shah, Langmuir, 16, 172.