

Journal of Surfactants and Detergents: 20th Volume Celebration Honoring Milton Rosen

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To celebrate its 20th anniversary, the *Journal of Surfactants and Detergents* (http://www.springer.com/gp/chemistry/industrial-chemistry-chemical-engineering/jds20?wt_mc=8.CON951.JDS20_HP) is sponsoring a special session at the AOCs Annual Meeting (<http://annualmeeting.aocs.org/program>) to honor Professor Milton Rosen, one of my long-time heroes in the field of surfactant chemistry.

I first met Milton in the late 1980s when I was a graduate student studying solubilization of organic compounds in aqueous surfactant micelles. I had just bought my first copy of “Surfactants and Interfacial Phenomena” and was so excited to meet the legend, I asked him to sign my copy. The book is now in its fourth edition and is still the go-to reference for people working in the field of surfactants.

After graduate school, I worked at the Henkel Corporate Labs where we hired Professor Rosen as a consultant on alkyl polyglucoside (APG) surfactants. At the time, APG surfactants were relatively new, and the project was geared to correlate the physical chemistry with application performance in laundry, liquid dish and hard surface cleaning. In 2005, I was honored to receive the Samuel Rosen Memorial award for work on water-soluble isethionates which Milton presented to me in Salt Lake City at the AOCs Annual Meeting.

Milton has had a long and distinguished career. Born in Brooklyn, New York, in 1920, Milton received his master’s degree from the University of Maryland in 1941. Milton was first exposed to surfactants at Glyco Products, a company that made emulsifiers and food additives. He said,

“I was aware of the fact that we did not know why they worked the way they did, or what other structures would be similar to them and their activities. We just knew that these were things we could sell and make money for the company.”

After working for Glyco Products, Milton was drafted into the United States Army and served 2 years in the Pacific Theater until the end of WW II. After the army, Milton started teaching chemistry at Brooklyn College. The teaching job was supposed to last 6 months, until an industrial position became available, but he wound up staying for the next 65 years.

Milton earned his Ph.D. in organic chemistry from the Polytechnic Institute of Brooklyn in 1949. His early work at Brooklyn College focused on the analysis of surface-active agents before turning his attention to the physical chemistry of surfactants.

Milton’s biggest scientific contribution to the field of surfactants and detergents was the general knowledge of the relationship of the chemical structure of surfactants to how they work. He said, “We now know how surfactants work and why they work, and what structures do what, and what other structures do other things. Basically, that’s the work that was my research for all those years.”

His research group at Brooklyn College has published over 150 papers on structure–property relationships of surfactants. His derivations on surfactant synergy are still extensively used to quantify surfactant interactions. His group also published some of the earliest papers on gemini surfactants, a topic that is still germane to *JSD* readers today.

In 1981, Milton founded the Surfactant Research Institute (SRI) at Brooklyn College. SRI’s objective is to acquire and disseminate fundamental and scientific

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knowledge in the area of surfactant chemistry, especially related to the application of surfactants.

He established the Samuel J. Rosen Award, honoring his father's dedication and enthusiasm for applied chemistry in 1991. In 1999, Milton was elected an AOCS Fellow for his contributions and leadership to the Surfactants and Detergents division. Milton has served on the *JSD* Editorial Advisory board since its inception, and published the first paper (<http://link.springer.com/article/10.1007/s11743-998-0001-y>) in *JSD* in 1998. Milton retired from SRI in 2011 at the age of 91. Today, at 96 years of age, Milton and his wife of 68 years, Ellen, remain active, taking cruises and teaching at their local Temple.

When asked about the future of surfactants, Milton says, "Surfactants should be based on renewable resources like

fats and proteins, not petroleum or other things like that. They must have practically no significant impact on the environment and must be mild or have no effect on skin surfaces. That's where the areas of research are and should be because people are really quite environmentally intelligent and concerned."

To honor Professor Rosen's distinguished career, *JSD* has sponsored a special session at the 2017 AOCS Annual Meeting. The session consists of papers given by former graduate students, Rosen award recipients and collaborators. Research topics include synergy in surfactant mixtures, surfactant–polymer interaction and gemini surfactants.