

Why can you easily
make bubbles with **soapy** water
but **NOT** with **pure** water?

A Study of

Bubble Dynamics



by **Professor Richard N. Zare**
Marguerite Blake Wilbur Professor in Natural Sciences
Stanford University

Date: 15 December 2003

Time: 6:00 – 7:00 p.m.

Venue: Tanglin Ballroom, Shangri-la Hotel,
Orange Grove Rd

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Bubbles fascinate the young and the old alike. Some think that bubbles are only child's play whereas others feel that bubbles conjure up visions of fantasy. The talk examines some common mysteries surrounding bubbles such as:

Admission is Free

Why can you easily make bubbles with soapy water but not with pure water?

Why do bubbles form at interfaces but not in the pure liquid?

Why do bubbles in a carbonated beverages rise, and why do they accelerate in rise rate and grow in size as they rise?

Why do bubbles in some carbonated beverages fall down along the side of the container immediately after the beverage is poured into the container?

What controls the height of foam in a carbonated beverage as a function of time?

Why do you get more lather in hot water than in cold water?

Why do women often leave less bubbles in a glass of champagne than men do?

Explanations are proposed based on simple chemical principles. This lecture is likely to make you never look at a carbonated beverage again in quite the same way.

• About the Speaker •

Professor Zare received his B.A. and Ph.D. from Harvard University. He was with MIT, University of Colorado and Columbia University before joining Stanford University in 1977. He is at present the Marguerite Blake Wilbur Professor in Natural Science at Stanford University. Professor Zare is renowned for his research in the area of laser chemistry. Among the numerous awards and honours he received are the National Medal of Science, the National Academy of Sciences Award in Chemical Sciences, Faraday Medal, the American Chemical Society Peter Debye Award in Physical Chemistry, the American Chemical Society Nobel Laureate Signature Award for Graduate Education, and the Laurance and Naomi Prize for Excellence in Undergraduate Education, Stanford University. Professor Zare has published 650 papers and four books.

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