Massachusetts Institute of Technology
Department of Mechanical Engineering

MMEC SEMINAR SERIES

Mechanics: Modelling, Experimentation, Computation

Tuesdays @ 4:00pm – Room 3-370 **December 09, 2014**

The Life and Death of a Drop.

Sid Nagel, *University of Chicago*

The exhilarating spray from waves crashing onto the shore, the distressing sound of a faucet leaking in the night, and the indispensable role of bubbles dissolving gas into the oceans are but a few examples of the ubiquitous presence and profound importance of drop formation and splashing in our lives. They are also examples of a liquid changing its topology as it breaks into pieces.

Although part of our common everyday experience, these changes are far from understood and reveal delightful and profound surprises upon careful investigation. For example, in droplet fission the fluid forms a neck that becomes vanishingly thin at the point of breakup so that there is a dynamic singularity in which physical properties such as pressure diverge. Singularities of this sort often organize the overall dynamical evolution of nonlinear systems.

In this lecture, I will give the life history of a drop – from its birth to its eventual demise – illustrating the passage of its existence with the scientific surprises that determine its fate.

Seminar Host: Kripa Varanasi (kripa@mit.edu)

*Please join us for **refreshments beforehand, outside Room 3-370***

For more information, visit our website at http://web.mit.edu/mmec/
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