

BIENGINEERING SEMINAR

at 11:30 AM on February 6th, 2014 (Thursday)
AR Auditorium, 2nd Floor, Mechanical Engineering

Biofluid Dynamics in Microdevices

Dorian Liepmann

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University of California, Berkeley

BioMEMS and microfluidics have enabled new technologies by providing new approaches for biosensors, diagnostic systems, and biomedical research. Many, if not most, biomedical applications will involve fluid control of complex and two-phase fluids where large biomolecules and polymers interact at the nanometer and micron length scales. In this arena, the characteristic length scales of cells, large molecules, and functionalized beads are similar to the length scales of the micro-flow channels in a way that does not exist in the macro-world. Research on the interaction of polymers, particles, and cells in microenvironments will be presented. The talk will focus on situations that exhibit unexpected results for which we are still looking for answers.

About the speaker:

Dorian Liepmann is a Professor of Bioengineering and Mechanical Engineering at UC Berkeley. He is a Co-Director of the Berkeley Sensor & Actuator Center (BSAC) which is the NSF Industry/University Cooperative Research Center for Microsensors and Microactuators. He is a former Chair of the Bioengineering Department and a Fellow of the American Institute of Medical and Biological Engineering. Dr. Liepmann works on the application of MEMS to biological and medical problems with a major part of his research focused on the development of novel approaches for improved health care including MEMS-based biosensors and drug delivery systems.