Weight-loss for oral biofilms

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In this 30-minute presentation, the importance of dental plaque thickness will be discussed and some of the challenges with understanding multi-species biofilms derived from dental plaque microcosms. Also in this presentation, we will examine a method to reliably and reproducibly assess the physical properties of in vitro multi-species plaque derived biofilms. A custom flow cell (FC) was designed to model oral cavity shear stresses on biofilms grown on hydroxyapatite (HA) disk. This presentation will discuss using a finite-element program (ANSYS 13) to model flow velocities and wall shear stresses on the interior 3D dimensions. Also, this presentation will discuss how to image the real-time effects (29 frames/sec) of treatment liquids using near infrared cross-polarization optical coherence tomography (CP-OCT). A flow cell monitored by CP-OCT is a novel method to investigate the effects of chemical therapeutics on the physical properties and adherence of biofilms.