



Wolfson Department of Chemical Engineering Special Seminar

Lecture Hall 6, Wolfson Department of Chemical Engineering,

Wednesday 11.1.2017 at 13:30

Professor German Drazer

Mechanical and Aerospace Engineering
Rutgers, The State University of New Jersey

Drop penetration method to characterize powder wetting properties

We show that the spontaneous penetration of droplets on a powder bed provides a simple way to characterize the wetting properties of a test liquid. Specifically, we demonstrate that calculating the appropriate dimensionless penetrating volume and time, and performing supplementary experiments with a reference liquid, it is possible to obtain the contact angle between the test liquid and the powder. We will present results for droplets of different size, penetrating liquid and powder system and show that the proposed method is capable of detecting *overlubrication* in a blend of pharmaceutical relevance, a well-known problem in the presence of non-wetting lubricants. We will also discuss modifications of the more traditional Washburn's method to characterize the possible hysteresis in the contact angle.

Refreshments will be served at 13:15