הנדסת ביוטכנולוגיה ומזון

הטכניון מכון טכנולוגי לישראל TECHNION Israel Institute of Technology

The Faculty of Biotechnology and Food Engineering

Thought for food and food for thought

Special seminar

Oral tribology: Sticky to Slippery Food and Beyond

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Abstract. Oral tribology at multiple length scales1,2 is emerging as a new paradigm to quantify friction and lubrication of food-saliva mixtures in the oral mucosa. This is largely due to the current consensus on oral processing dynamics, where researchers have proposed that the well-established 'rheology' (bulk property) cannot explain all the mouthfeel features such as astringency, smoothness, pastiness etc., and these perception are better explained3 by rather under-researched 'tribology' (surface property of food-saliva bolus based lubricants). In this talk, I will discuss three case studies highlighting the role of oral tribology across scales from protein films4 to microgels5, to model6,7 and real food applications8. I will also give some examples where oral tribology has been successful in correlating friction coefficients to sensory attributes in model foods6,7 and lubricity is used as modifiable factor in food to trigger satiation9. Finally, I will discuss few of the several challenges remaining in oral tribology field including appropriate tribological surfaces and testing conditions that need to be harmonized across laboratories.

Wednesday, 27/5/2020, 14:00 – 15:00, Via zoom

Meeting ID: 974 4524 4975 Password: 449595