

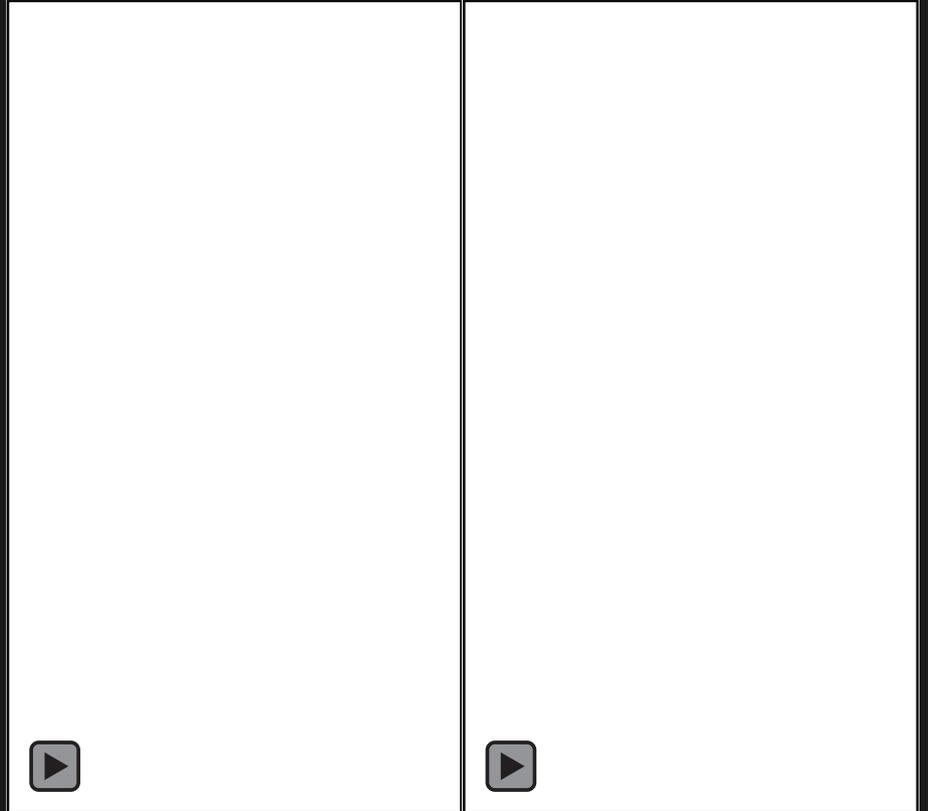
Bringing the Lab Home: The Physics of Cooking at the Soft Matter Kitchen



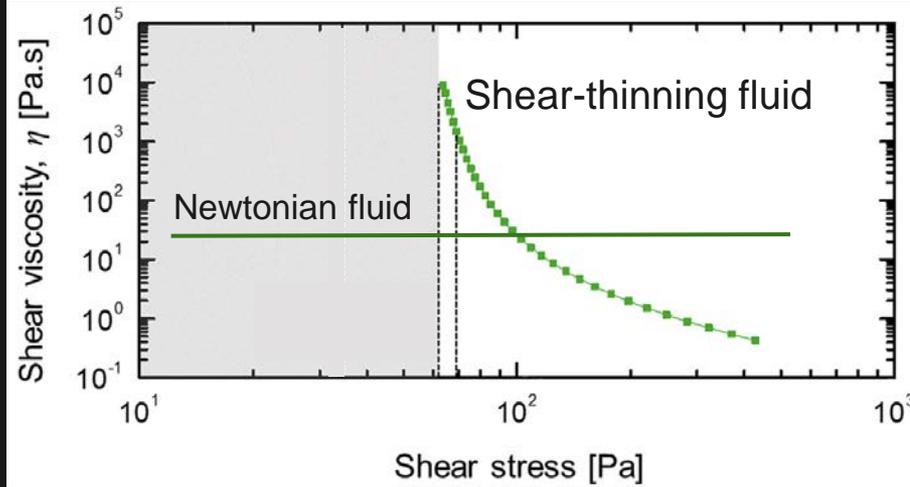
Jess Zeldes



Which is More Viscous: Honey or Mayonnaise?



What is Rheology?



Rheology looks at complex fluids in simple flows.

$$\underline{\underline{\tau}} = -\underline{\underline{\mu}} \dot{\underline{\underline{\gamma}}}$$

Fluid Dynamics studies simple fluids in complex flows.

SOFT MATTER KITCHEN

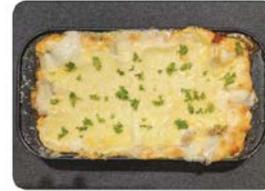
- Explain complex rheological concepts using food
- Mostly consists of a blog hosted at arif.zone, as well as video content
- 600 visits this year from 400 unique visitors, up 250% from last year



A farewell sous vide cheesecake

June 30th, 2020

[Read more](#)



Lasagna and ricotta experimentation

July 31st, 2020

[Read more](#)



American-Chinese food - Cream cheese wontons

August 31st, 2020

[Read more](#)



Tiramisu

September 30, 2020

[Read more](#)



Acid-coagulated tofu

October 31, 2020

[Read more](#)

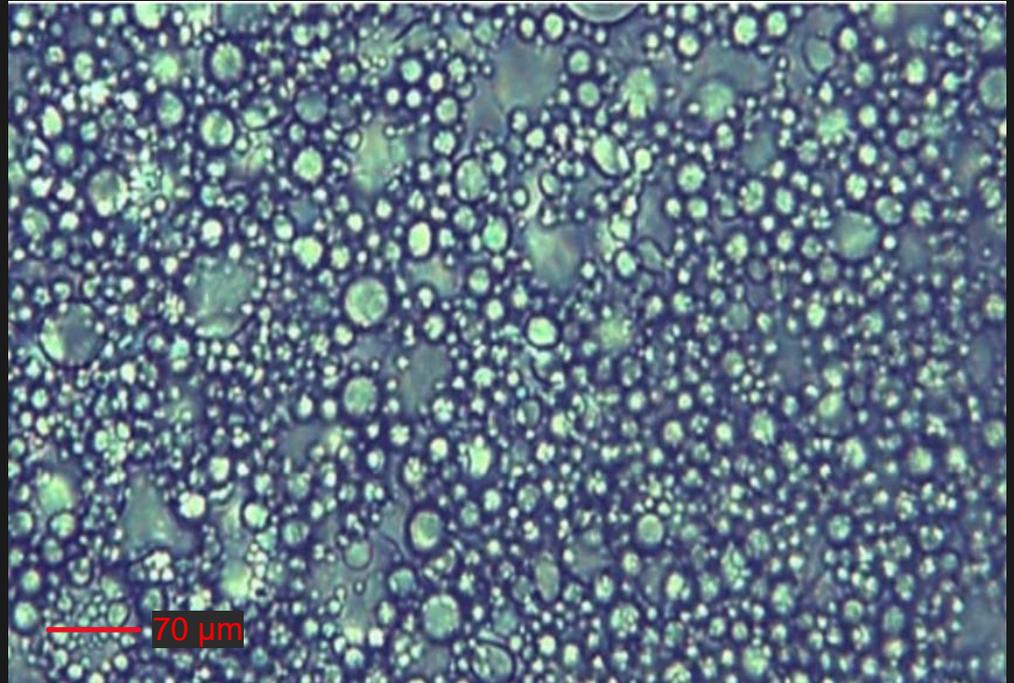


Mashed potato volcano

November 30, 2020

[Read more](#)

Mayonnaise, Emulsions, and Yield Stress Fluids



Highly jammed, glassy microstructure

Ghazaei et. al.
2015

Rheological Design in Tiger Stripe Milk Tea

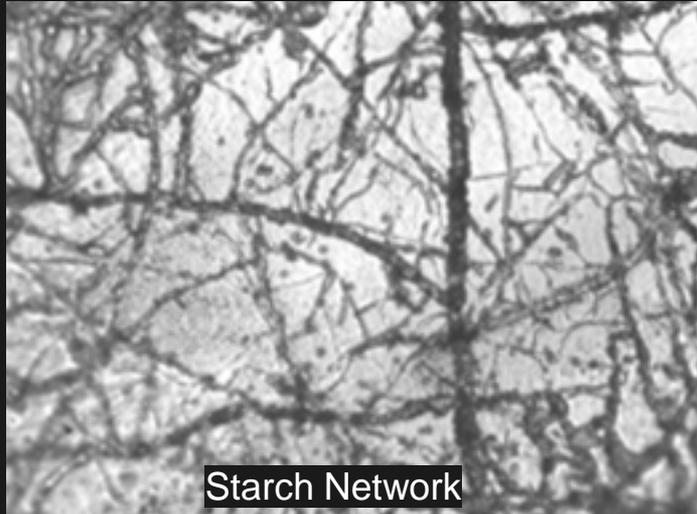


Image: Tanya Mok



Elasticity is the Key

Barron et. al. 2005



With rheological design: Better coating



Thank You!

