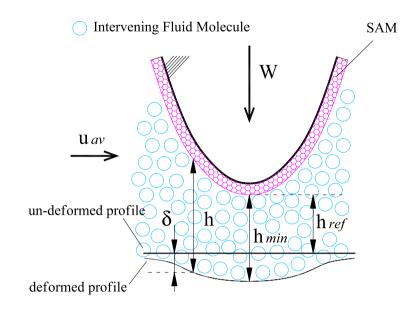
System Dynamics at Nano-Scale:

Drainage from contact does not conform to continuity of flow



Other kinetics than hydrodynamics





- Solvation/Hydration: Molecular reordering due to constraining effect of solid boundaries.
- Van der Waals Interactions: Intermolecular attractions between fluid-fluid and fluid-solid molecules.
- Electrostatic Repulsion: Repulsive action between the aforementioned.
- Meniscus Forces: Negative Laplace Pressure between adjacent solids due to wetness.
- Adhesion: attractive force at close range due to free surface energy.

A combination of the above operate, depending on free surface energy, topography and physical chemistry