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Apr.08: Colloidal interactions between asphaltene and different surfaces measured by atomic force microscopy (AFM)

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Colloidal Interactions Between Asphaltene and Different Surfaces Measured by Atomic force microscopy (AFM)

by
Eiman Al-Muhareb

Supervisor: Prof. Paul Luckham



- **Objectives:**
 - Measure the interaction forces between asphaltene and different surfaces in aqueous and non aqueous interaction medium using AFM.
 - Understand how these interaction forces affect the stability of the colloidal oil system.
 - Relate the obtained information to the precipitation and deposition problems of asphaltene in the oil industry.



Samples:

- Asphaltene: Extracted from heavy Kuwaiti oil (Atmospheric Residue, API 8.6) following IP standard method, IP-143.
- Stainless Steel Surface: Grade 304, 18-20% Cr, 8-11% Ni, <0.08% Carbon.
- Quartz surface: lattice of Silica (SiO_2) tetrahedra.



Atomic Force Microscopy

