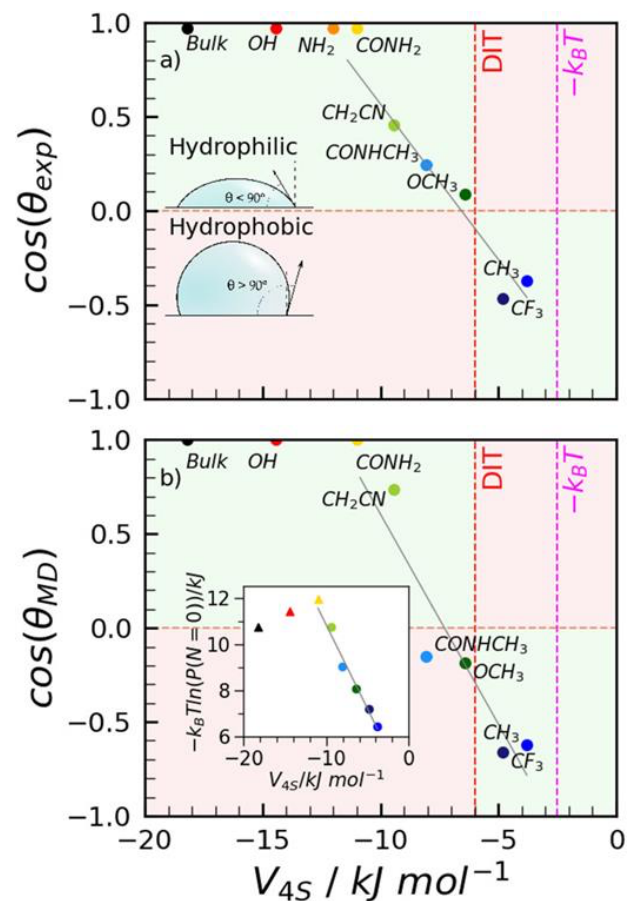
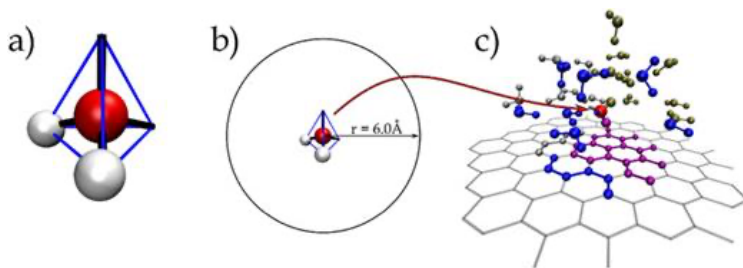


# Water's intrinsic energetic scale: from wetting to cavitation and nanoconfinement

Prof. Gustavo Appignanesi

Dep. Química, Universidad Nacional del Sur - Bahía Blanca, Argentina

We show that wetting, hydrophobicity, cavitation, and nanoconfinement can be understood within a unified framework governed by an intrinsic energetic scale of liquid water. A simple molecular descriptor ( $V_{4S}$ ) and a dimensionless parameter ( $\omega_m$ ) are introduced to compare surface-water interactions against this scale. Hydrophobicity then emerges as the inability to compensate hydrogen-bond defects up to the level achieved in bulk water, defining the defect interaction threshold (DIT) as the relevant energetic benchmark. This perspective connects interfacial structure, density fluctuations, and drying, revealing a universal thermodynamic balance underlying diverse aqueous interfacial phenomena.



Mercoledì 10 giugno - ore 10:30

Aula Videoconferenze, DIMA -

Via Eudossiana 18, Roma

Link Google Meet: [meet.google.com/vkx-dawu-uqc](https://meet.google.com/vkx-dawu-uqc)

Per dettagli contattare il Prof. Alberto Giacomello:  
[alberto.giacomello@uniroma1.it](mailto:alberto.giacomello@uniroma1.it)



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