# Raymond R Dagastine

List of Publications by Year
in descending order



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|---|---|---|---|
| 98 papers | 5,251 citations | 71102 41 h-index | 88630 70 g-index |
| 100 all docs | 100 docs citations | 100 times ranked | 4967 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Measurement of surface and interfacial tension using pendant drop tensiometry. Journal of Colloid and Interface Science, 2015, 454, 226-237. | 9.4 | 704 |
| 2 | Modular assembly of superstructures from polyphenol-functionalized building blocks. Nature Nanotechnology, 2016, 11, 1105-1111. | 31.5 | 337 |
| 3 | Dynamic Forces Between Two Deformable Oil Droplets in Water. Science, 2006, 313, 210-213. | 12.6 | 234 |
| 4 | Dynamic interactions between microbubbles in water. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11177-11182. | 7.1 | 179 |
| 5 | Forces between a Rigid Probe Particle and a Liquid Interface. Journal of Colloid and Interface Science, 2002, 247, 310-320. | 9.4 | 142 |
| 6 | Forces between a Rigid Probe Particle and a Liquid Interface. Journal of Colloid and Interface Science, 2001, 236, 141-154. | 9.4 | 139 |
| 7 | Measurement and analysis of forces in bubble and droplet systems using AFM. Journal of Colloid and Interface Science, 2012, 371, 1-14. | 9.4 | 138 |
| 8 | Forces between two oil drops in aqueous solution measured by AFM. Journal of Colloid and Interface Science, 2004, 273, 339-342. | 9.4 | 112 |
| 9 | Microstructure of milk gel and cheese curd observed using cryo scanning electron microscopy and confocal microscopy. LWT - Food Science and Technology, 2011, 44, 1291-1302. | 5.2 | 109 |
| 10 | Repulsive van der Waals Forces in Soft Matter: Why Bubbles Do Not Stick to Walls. Physical Review Letters, 2011, 106, 064501. | 7.8 | 101 |
| 11 | Hydrodynamic Boundary Conditions and Dynamic Forces between Bubbles and Surfaces. Physical Review Letters, 2008, 101, 024501. | 7.8 | 98 |
| 12 | Measurement of Dynamical Forces between Deformable Drops Using the Atomic Force Microscope. I. Theory. Langmuir, 2005, 21, 2912-2922. | 3.5 | 97 |
| 13 | The Dielectric Function for Water and Its Application to van der Waals Forces. Journal of Colloid and Interface Science, 2000, 231, 351-358. | 9.4 | 96 |
| 14 | Dynamic Forces between Bubbles and Surfaces and Hydrodynamic Boundary Conditions. Langmuir, 2008, 24, 11533-11543. | 3.5 | 94 |
| 15 | Nitrogen deprivation of microalgae: effect on cell size, cell wall thickness, cell strength, and resistance to mechanical disruption. Journal of Industrial Microbiology and Biotechnology, 2016, 43, 1671-1680. | 3.0 | 93 |
| 16 | Measurement of the Hydrophobic Force in a Soft Matter System. Journal of Physical Chemistry Letters, 2013, 4, 3872-3877. | 4.6 | 92 |
| 17 | Compound sessile drops. Soft Matter, 2012, 8, 11042. | 2.7 | 83 |
| 18 | The effect of pH at renneting on the microstructure, composition and texture of Cheddar cheese. Food Research International, 2012, 48, 119-130. | 6.2 | 82 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | The hydrophobic force: measurements and methods. Physical Chemistry Chemical Physics, 2014, 16, 18065-18075. | 2.8 | 79 |
| 20 | Micromechanical characterization of shales through nanoindentation and energy dispersive x-ray spectrometry. Geomechanics for Energy and the Environment, 2017, 9, 21-35. | 2.5 | 74 |
| 21 | Single Adhesive Nanofibers from a Live Diatom Have the Signature Fingerprint of Modular Proteins. Biophysical Journal, 2005, 89, 4252-4260. | 0.5 | 72 |
| 22 | The Effect of Milk Processing on the Microstructure of the Milk Fat Globule and Rennet Induced Gel Observed Using Confocal Laser Scanning Microscopy. Journal of Food Science, 2010, 75, E135-45. | 3.1 | 72 |
| 23 | Hydrodynamic forces involving deformable interfaces at nanometer separations. Physics of Fluids, 2008, 20, 032101. | 4.0 | 71 |
| 24 | Bubble Coalescence during Acoustic Cavitation in Aqueous Electrolyte Solutions. Langmuir, 2011, 27, 12025-12032. | 3.5 | 66 |
| 25 | Direct Comparison of Atomic Force Microscopic and Total Internal Reflection Microscopic Measurements in the Presence of Nonadsorbing Polyelectrolytes. Langmuir, 2005, 21, 5421-5428. | 3.5 | 62 |
| 26 | Bubble Colloidal AFM Probes Formed from Ultrasonically Generated Bubbles. Langmuir, 2008, 24, 603-605. | 3.5 | 61 |
| 27 | Anomalous Stability of Carbon Dioxide in pHâ€Controlled Bubble Coalescence. Angewandte Chemie - International Edition, 2011, 50, 3454-3456. | 13.8 | 58 |
| 28 | Oscillatory Packing and Depletion of Polyelectrolyte Molecules at an Oxideâ^'Water Interface. Journal of Physical Chemistry B, 2002, 106, 11557-11564. | 2.6 | 53 |
| 29 | Precision AFM Measurements of Dynamic Interactions between Deformable Drops in Aqueous Surfactant and Surfactant-Free Solutions. Langmuir, 2011, 27, 2676-2685. | 3.5 | 53 |
| 30 | Towards Enhanced Performance Thin-film Composite Membranes via Surface Plasma Modification. Scientific Reports, 2016, 6, 29206. | 3.3 | 50 |
| 31 | Calculations of van der Waals Forces in 2-Dimensionally Anisotropic Materials and Its Application to Carbon Black. Journal of Colloid and Interface Science, 2002, 249, 78-83. | 9.4 | 49 |
| 32 | Forces between a rigid probe particle and a liquid interface. Journal of Colloid and Interface Science, 2004, 269, 84-96. | 9.4 | 49 |
| 33 | Diatom Adhesive Mucilage Contains Distinct Supramolecular Assemblies of a Single Modular Protein. Biophysical Journal, 2006, 90, 2987-2993. | 0.5 | 49 |
| 34 | Direct measurements of the adhesion between a glass particle and a glass surface in a humid atmosphere. Journal of Adhesion Science and Technology, 2002, 16, 869-885. | 2.6 | 48 |
| 35 | Measurements of dynamic forces between drops with the AFM: novel considerations in comparisons between experiment and theory. Soft Matter, 2008, 4, 1270. | 2.7 | 46 |
| 36 | Homo- and hetero-interactions between air bubbles and oil droplets measured by atomic force microscopy. Soft Matter, 2011, 7, 8977. | 2.7 | 46 |

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| 37 | Anomalous pH Dependent Stability Behavior of Surfactant-Free Nonpolar Oil Drops in Aqueous Electrolyte Solutions. Langmuir, 2007, 23, 9335-9340. | 3.5 | 44 |
| 38 | Interaction forces between oilâ€“water particle interfacesâ€”Non-DLVO forces. Faraday Discussions, 2005, 129, 111-124. | 3.2 | 43 |
| 39 | Structural Forces in Soft Matter Systems. Journal of Physical Chemistry Letters, 2011, 2, 434-437. | 4.6 | 43 |
| 40 | Microstructure and Composition of Full Fat Cheddar Cheese Made with Ultrafiltered Milk Retentate. Foods, 2013, 2, 310-331. | 4.3 | 42 |
| 41 | Polymeric Stabilized Emulsions: Steric Effects and Deformation in Soft Systems. Langmuir, 2012, 28, 4599-4604. | 3.5 | 41 |
| 42 | Assembling Native Elementary Cellulose Nanofibrils via a Reversible and Regioselective Surface Functionalization. Journal of the American Chemical Society, 2021, 143, 17040-17046. | 13.7 | 41 |
| 43 | Combined AFMâ^'Confocal Microscopy of Oil Droplets: Absolute Separations and Forces in Nanofilms. Journal of Physical Chemistry Letters, 2011, 2, 961-965. | 4.6 | 40 |
| 44 | Effect of Gold Oxide in Measurements of Colloidal Force. Langmuir, 2011, 27, 6026-6030. | 3.5 | 39 |
| 45 | The effect of calcium chloride addition on the microstructure and composition of Cheddar cheese. International Dairy Journal, 2013, 33, 135-141. | 3.0 | 38 |
| 46 | Dynamic Forces between a Moving Particle and a Deformable Drop. Journal of Physical Chemistry C, 2008, 112, 567-574. | 3.1 | 37 |
| 47 | CALCULATION OF VAN DER WAALS FORCES WITH DIFFUSE COATINGS: APPLICATIONS TO ROUGHNESS AND ADSORBED POLYMERS. Journal of Adhesion, 2004, 80, 365-394. | 3.0 | 36 |
| 48 | Coagulation temperature affects the microstructure and composition of full fat Cheddar cheese. Dairy Science and Technology, 2011, 91, 739-758. | 2.2 | 36 |
| 49 | Structural forces in soft matter systems: unique flocculation pathways between deformable droplets. Soft Matter, 2011, 7, 11334. | 2.7 | 35 |
| 50 | Precise measurements of capsule mechanical properties using indentation. Soft Matter, 2017, 13, 1943-1947. | 2.7 | 35 |
| 51 | Divalent cations stabilize the aggregation of sulfated glycoproteins in the adhesive nanofibers of the biofouling diatom Toxarium undulatum. Soft Matter, 2008, 4, 811. | 2.7 | 34 |
| 52 | Viscosity Effects on Hydrodynamic Drainage Force Measurements Involving Deformable Bodies. Langmuir, 2010, 26, 11921-11927. | 3.5 | 33 |
| 53 | OpenDrop: Open-source software for pendant drop tensiometry contact angle measurements. Journal of Open Source Software, 2021, 6, 2604. | 4.6 | 32 |
| 54 | Nano-mechanical properties of clay-armoured emulsion droplets. Soft Matter, 2012, 8, 3112. | 2.7 | 30 |

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|---|---|---|---|
| 55 | Mapping coalescence of micron-sized drops and bubbles. Journal of Colloid and Interface Science, 2017, 487, 513-522. | 9.4 | 24 |
| 56 | Modification of pea protein isolate for ultrasonic encapsulation of functional liquids. RSC Advances, 2016, 6, 106130-106140. | 3.6 | 22 |
| 57 | Charge and Film Drainage of Colliding Oil Drops Coated with the Nonionic Surfactant C<sub>12</sub>E<sub>5</sub>. Langmuir, 2017, 33, 4913-4923. | 3.5 | 22 |
| 58 | Forces between oil drops in polymer-surfactant systems: Linking direct force measurements to microfluidic observations. Journal of Colloid and Interface Science, 2019, 544, 130-143. | 9.4 | 22 |
| 59 | Interaction Forces between Bubbles in the Presence of Novel Responsive Peptide Surfactants. Langmuir, 2012, 28, 17230-17237. | 3.5 | 21 |
| 60 | Direct AFM force measurements between air bubbles in aqueous polydisperse sodium poly(styrene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 Journal of Colloid and Interface Science, 2015, 449, 236-245. | 9.4 | 21 |
| 61 | Dynamics of the Interaction Forces at the Silver/Solution Interface during Amine Adsorption. Langmuir, 2004, 20, 6742-6747. | 3.5 | 20 |
| 62 | Novel Characterization of Microdrops and Microbubbles in Emulsions and Foams Using Atomic Force Microscopy. Langmuir, 2011, 27, 2536-2544. | 3.5 | 20 |
| 63 | Determining how polymer-bubble interactions impact algal separation using the novel â€œPosiâ€•dissolved air flotation process. Separation and Purification Technology, 2018, 201, 139-147. | 7.9 | 20 |
| 64 | Changes in morphological and nano-mechanical properties of the milk fat globule membrane during processing. RSC Advances, 2012, 2, 2384. | 3.6 | 19 |
| 65 | Dynamic forces between emulsified water drops coated with Poly-Glycerol-Poly-Ricinoleate (PGPR) in canola oil. Journal of Colloid and Interface Science, 2018, 517, 166-175. | 9.4 | 19 |
| 66 | Phase Behavior, Small-Angle Neutron Scattering and Rheology of Ternary Nonionic Surfactantâ€“Oilâ€“Water Systems: A Comparison of Oils. Langmuir, 2013, 29, 3575-3582. | 3.5 | 18 |
| 67 | Temperature dependent mechanical properties of air, oil and water filled microcapsules studied by atomic force microscopy. Polymer, 2016, 102, 333-341. | 3.8 | 18 |
| 68 | Atomic force microscopy: Loading position dependence of cantilever spring constants and detector sensitivity. Review of Scientific Instruments, 2007, 78, 116102. | 1.3 | 17 |
| 69 | Direct AFM force measurements between air bubbles in aqueous monodisperse sodium poly(styrene) Tj ETQq1 1 0.784314 rgBT /Ove | 9.4 | 17 |
| 70 | Viscoelastic characterization of the crosslinking of Î²-lactoglobulin on emulsion drops via microcapsule compression and interfacial dilational and shear rheology. Journal of Colloid and Interface Science, 2021, 583, 404-413. | 9.4 | 16 |
| 71 | van der Waals force calculation between laminated media, pertinent to the magnetic storage head-disk interface. Journal of Applied Physics, 2005, 97, 104503. | 2.5 | 15 |
| 72 | Anomalous Pull-Off Forces between Surfactant-Free Emulsion Drops in Different Aqueous Electrolytes. Langmuir, 2012, 28, 4259-4266. | 3.5 | 15 |

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| 73 | Evaporation of a capillary bridge between a particle and a surface. Soft Matter, 2014, 10, 8489-8499. | 2.7 | 15 |
| 74 | Poroelastic properties of hydrogel microparticles. Soft Matter, 2020, 16, 5314-5324. | 2.7 | 14 |
| 75 | Variations in properties of atomic force microscope cantilevers fashioned from the same wafer. Nanotechnology, 2008, 19, 105709. | 2.6 | 13 |
| 76 | Silica nano-particle super-hydrophobic surfaces: the effects of surface morphology and trapped air pockets on hydrodynamic drainage forces. Faraday Discussions, 2009, 143, 151. | 3.2 | 13 |
| 77 | Ultrasonic synthesis of stable oil filled microcapsules using thiolated chitosan and their characterization by AFM and numerical simulations. Soft Matter, 2016, 12, 7212-7222. | 2.7 | 13 |
| 78 | Ultrasonically synthesized organic liquid-filled chitosan microcapsules: part 2: characterization using AFM (atomic force microscopy) and combined AFMâ€“confocal laser scanning fluorescence microscopy. Soft Matter, 2018, 14, 3192-3201. | 2.7 | 12 |
| 79 | Effect of van der Waals forces on molecularly thin lubricant in the magnetic storage head-disk interface. Journal of Applied Physics, 2005, 98, 124906. | 2.5 | 11 |
| 80 | Solvent Impregnated Polymers for Carbon Capture. Industrial & Engineering Chemistry Research, 2019, 58, 6626-6634. | 3.7 | 11 |
| 81 | Non-linear and cyclical collisions between drops and bubbles: using AFM to understand droplet interactions in micro-scale flows. Soft Matter, 2013, 9, 2426. | 2.7 | 10 |
| 82 | Lateral Hydrodynamic Interactions between an Emulsion Droplet and a Flat Surface Evaluated by Frictional Force Microscopy. Langmuir, 2010, 26, 8002-8007. | 3.5 | 9 |
| 83 | Hindered Diffusion of an Oil Drop Under Confinement and Surface Forces. Journal of Physical Chemistry Letters, 2011, 2, 2472-2477. | 4.6 | 9 |
| 84 | Charge tunable thin-film composite membranes by gamma-ray triggered surface polymerization. Scientific Reports, 2017, 7, 4426. | 3.3 | 9 |
| 85 | Structure and Nanomechanics of Dry and Hydrated Intermediate Filament Films and Fibers Produced from Hagfish Slime Fibers. ACS Applied Materials & Interfaces, 2018, 10, 40460-40473. | 8.0 | 9 |
| 86 | Effect of media overcoat on van der Waals interaction at the headâ€“disk interface. Journal of Applied Physics, 2005, 97, 126106. | 2.5 | 8 |
| 87 | Use of microaspiration to study the mechanical properties of polymer gel microparticles. Soft Matter, 2019, 15, 7286-7294. | 2.7 | 8 |
| 88 | Insights into Free Volume Variations across Ion-Exchange Membranes upon Mixed Solvents Uptake by Small and Ultrasmall Angle Neutron Scattering. ACS Applied Materials & Interfaces, 2017, 9, 8704-8713. | 8.0 | 7 |
| 89 | Mass transfer between microbubbles. Journal of Colloid and Interface Science, 2020, 571, 253-259. | 9.4 | 7 |
| 90 | Anisotropic Particle Fabrication Using Thermal Scanning Probe Lithography. ACS Applied Materials & Interfaces, 2022, 14, 19878-19888. | 8.0 | 7 |

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| 91 | Study of Fluid and Transport Properties of Porous Anodic Aluminum Membranes by Dynamic Atomic Force Microscopy. Langmuir, 2013, 29, 8969-8977. | 3.5 | 6 |
| 92 | Effect of Orientation and Wetting Properties on the Behavior of Janus Particles at the Airâ€“Water Interface. ACS Applied Materials & Interfaces, 2020, 12, 5128-5135. | 8.0 | 6 |
| 93 | Interfacial Properties of Chitosan in Interfacial Shear and Capsule Compression. ACS Applied Materials & Interfaces, 2020, 12, 48084-48092. | 8.0 | 6 |
| 94 | Sphere to rod transitions in self assembled systems probed using direct force measurement. Soft Matter, 2015, 11, 1303-1314. | 2.7 | 5 |
| 95 | van der Waals interactions between the air-bearing surface and a lubricated glass disk: A comparative study. Applied Physics Letters, 2006, 88, 022509. | 3.3 | 4 |
| 96 | Ultrasonically synthesized organic liquid-filled chitosan microcapsules: part 1: tuning physical & functional properties. Soft Matter, 2018, 14, 3202-3208. | 2.7 | 4 |
| 97 | Ion Tuned Water Can Greatly Enhance Alteration of Carbonate Surface to Water-wet. , 2018, , . | | 2 |
| 98 | Direct Force Measurement at Liquid/Liquid Interfaces. , 2005, , 77-95. | | 0 |