

# Jacob Israelachvili (and group) publications 1971-2014

## 1971-1980

1. **Interferometric Method for Determining Refractive Index and Thickness of Thin Films.** J. Israelachvili. *Nature, Physical Science* **229** (1971) 85-86.
2. **Measurement of van der Waals Dispersion Forces in the Range 1.4 to 130 nm.** J.N. Israelachvili, D. Tabor. *Nature, Physical Science* **236** (1972) 106.
3. **The Measurement of van der Waals Dispersion Forces in the Range 1.5 to 130 nm.** J.N. Israelachvili, D. Tabor. *Proc. Roy. Soc. (London)* **A331** (1972) 19-38.
4. **The Calculation of van der Waals Dispersion Forces Between Macroscopic Bodies.** J. N. Israelachvili. *Proc. Roy. Soc. (London)* **A331** (1972) 39-55.
5. **van der Waals Forces: Theory and Experiment.** J. N. Israelachvili, D. Tabor. *Prog. Surface Membrane Sci.* **7** (1973) 1-55.
6. **Shear Properties of Molecular Films.** J. N. Israelachvili, D. Tabor. *Nature, Physical Science* **241** (1973) 148-149.
7. **van der Waals Forces Involving Thin Rods.** J. N. Israelachvili. *J. Theor. Biol.* **42** (1973) 411-417.
8. **Thin Film Studies Using Multiple Beam Interferometry.** J. N. Israelachvili. *J. Colloid Interface Sci.* **44** (1973) 259-272.
9. **van der Waals Dispersion Force Contributions to Works of Adhesion and Contact Angles on the Basis of Macroscopic Theory.** J. N. Israelachvili. *J. Chem. Soc., Faraday Trans. II* **69** (1973) 1729-1738.
10. **Theoretical Considerations on the Asymmetric Distribution of Charged Phospholipid Molecules on the Inner and Outer Layers of Curved Bilayer Membranes.** J. N. Israelachvili. *Biochim. Biophys. Acta* **323** (1973) 659-663.
11. **The Effects of Some Cations and Anions on Spin Labeled Cytoplasmic Membranes of *Bacillus subtilis*.** M. Ehrstrom, L. E. Goran Eriksson, J. Israelachvili, A. Ehrenberg. *Biochim. Biophys. Acta* **55** (1973) 396-402.
12. **The Shear Properties of Molecular Films.** J. N. Israelachvili, D. Tabor. *Wear* **24** (1973) 386-390.
13. **Theoretical Analysis of the Molecular Motion of Spin Labels in Membranes. ESR Spectra of Labelled *Bacillus subtilis* Membranes.** J. Israelachvili, J. Sjösten, L. E. Goran Eriksson, M. Ehrstrom, A. Gräslund, A. Ehrenberg. *Biochim Biophys. Acta* **339** (1974) 164-172.
14. **Van der Waals Forces in Biological Systems.** J. N. Israelachvili. *Quart. Rev. Biophys.* **6** (1974) 341-387.
15. **The Nature of van der Waals Forces.** J. N. Israelachvili. *Contemp. Phys.* **15** (1974) 159-177.
16. **Birefringence and Dichroism in Invertebrate Photoreceptors.** J. Israelachvili, R. Sammut, A. W. Snyder. *J. Opt. Soc. Am.* **65** (1975) 221-222.
17. **A Model for the Packing of Lipids in Bilayer Membranes.** Jacob N. Israelachvili, D. John Mitchell. *Bochim Biophys. Acta* **389** (1975) 13-19.
18. **ESR Spectral Analysis of the Molecular Motion of Spin Labels in Lipid Bilayers and Membranes Based on a Model in Terms of Two Angular Motional Parameters and Rotational Correlation Times.** J. Israelachvili, J. Sjösten, L. E. G. Eriksson, M. Ehrstrom, A. Gräslund, A. Ehrenberg. *Biochim. Biophys. Acta* **382** (1975) 124-141.
19. **Birefringence and Dichroism of Photoreceptors.** J. N. Israelachvili, R. A. Sammut, A. W. Snyder. *Vision Res.* **16** (1976) 44-49.

20.	<b>Absorption Characteristics of Oriented Photopigments in Microvilli.</b> J. N. Israelachvili, M. Wilson. <i>Biological Cybernetics</i> <b>21</b> (1976) 9-15.
21.	<b>van der Waals Forces.</b> J. N. Israelachvili. <i>McGraw-Hill Encyclopedia of Science and Technology</i> , N.Y., 1976 Yearbook, pp. 22-31.
22.	<b>The Dispersion Interaction of Crossed Mica Cylinders.</b> L. R. White, J. N. Israelachvili, B. W. Ninham. <i>J. Chem. Soc., Faraday Trans. I</i> <b>72</b> (1976) 2526-2536.
23.	<b>Theory of Self-Assembly of Hydrocarbon Amphiphiles into Micelles and Bilayers.</b> J. N. Israelachvili, D. J. Mitchell, B. W. Ninham. <i>J. Chem. Soc., Faraday Trans. II</i> <b>72</b> (1976) 1525-1568.
24.	<b>Direct Measurement of Long-Range Forces Between Two Mica Surfaces in Aqueous KNO<sub>3</sub> Solutions.</b> J. N. Israelachvili, G. E. Adams. <i>Nature</i> <b>262</b> (1976) 774-776.
25.	<b>Intermolecular Forces - The Long and Short of It.</b> J. N. Israelachvili, B. W. Ninham. <i>J. Colloid Interface Sci.</i> <b>58</b> (1977) 14-25.
26.	<b>Theory of Self-Assembly of Lipid Bilayers and Vesicles.</b> J. N. Israelachvili, D. J. Mitchell, B. W. Ninham. <i>Biochim. Biophys. Acta</i> <b>470</b> (1977) 185-201.
27.	<b>Refinement of the Fluid-Mosaic Model of Membrane Structure.</b> J. N. Israelachvili. <i>Biochim. Biophys. Acta</i> <b>469</b> (1977) 221-225.
28.	<b>Measurement of Forces Between Two Mica Surfaces in Potassium Nitrate Solutions.</b> G. E. Adams, J. N. Israelachvili, in <i>Modification of Soil Structure</i> , (W. W. Emerson, R. D. Bond, A. R. Dexter, Ed.), J. Wiley, pp. 27-33 (1978).
29.	<b>Measurement of Forces Between Two Mica Surfaces in Aqueous Electrolyte Solutions in the Range 0-100 nm.</b> J. N. Israelachvili, G. E. Adams. <i>J. Chem. Soc., Faraday Trans. I</i> <b>74</b> (1978) 975-1001.
30.	<b>The Packing of Lipids and Proteins in Membranes.</b> J. N. Israelachvili, in <i>Light Transducing Membranes: Structure, Function and Evolution</i> , (D. W. Deamer, ed.) Academic Press, pp. 91-107 (1978).
31.	<b>Measurement of Forces Between Surfaces Immersed in Electrolyte Solutions.</b> J. N. Israelachvili. <i>General Discussions of the Faraday Society on Colloid Stability</i> , No. <b>65</b> (1978) 20-24.
32.	<b>Direct Experimental Verification of the Kelvin Equation for Capillary Condensation.</b> L. R. Fisher, J. N. Israelachvili. <i>Nature</i> <b>277</b> (1979) 548-549.
33.	<b>Measurement of Forces Between Two Mica Surfaces in Aqueous Poly(ethylene oxide) Solutions.</b> J. N. Israelachvili, R. K. Tandon, L. R. White. <i>Nature</i> <b>277</b> (1979) 120-121.
34.	<b>Lipid Packing and Transbilayer Asymmetries of Mixed Lipid Vesicles.</b> S. L. Carnie, J. N. Israelachvili, B. A. Pailthorpe. <i>Biochim. Biophys. Acta</i> <b>554</b> (1979) 340-357.
35.	<b>Molecular Packing of Membrane Components.</b> J. N. Israelachvili. <i>Proc. Aust. Biochem. Soc.</i> <b>12</b> (1979) Q22.
36.	<b>Membrane Structure.</b> J. N. Israelachvili. <i>Proc. Aust. Soc. Biophys.</i> <b>3</b> (1979) 18s-20s.
37.	<b>The Membrane Geometry of the Prolamellar Body.</b> J. N. Israelachvili, J. Wolfe. <i>Protoplasma</i> <b>100</b> (1980) 315-321.
38.	<b>Direct Measurement of Forces Due to Solvent Structure.</b> R. G. Horn, J. N. Israelachvili. <i>Chem. Phys. Letts.</i> <b>71</b> (1980) 192-194.
39.	<b>Measurement of Forces Between Two Mica Surfaces in Aqueous Poly(ethylene oxide) Solutions.</b> J. N. Israelachvili, R. K. Tandon, L. R. White. <i>J. Colloid Interface Sci.</i> <b>78</b> (1980) 430-443.
40.	<b>Physical Principles of Membrane Organization.</b> J. N. Israelachvili, S. Marcelja, R. G. Horn. <i>Quart. Rev. Biophys.</i> <b>13</b> (1980) 121-200.
41.	<b>On the Adhesion Force Between Deformable Solids.</b> J. N. Israelachvili, E. Perez, R. K. Tandon. <i>J. Colloid Interface Sci.</i> <b>78</b> (1980) 260-261.
42.	<b>Determination of the Capillary Pressure in Menisci of Molecular Dimensions.</b> L. R. Fisher, J. N. Israelachvili. <i>Chem. Phys. Letts.</i> <b>76</b> (1980) 325-328.

## 1981-1993

43. **A Comparison of Surface Forces and Interfacial Properties of Mica in Purified Surfactant Solutions.**  
R. M. Pashley, J. N. Israelachvili. *Colloids & Surfaces* **2** (1981) 169-187.
44. **Forces Between Hydrophobic Surfaces in Aqueous Electrolyte and Surfactant Solutions Containing Common Air-Borne Impurities.** J. N. Israelachvili, R. M. Pashley, E. Perez, R. K. Tandon. *Colloids & Surfaces* **2** (1981) 287-291.
45. **Forces Due to Structure in a Thin Liquid Crystal Film.**  
R. G. Horn, J. N. Israelachvili, E. Perez. *J. de Physique* **42** (1981) 39-52.
46. **The Forces Between Surfaces.**  
J. N. Israelachvili. *Phil. Mag. A* **43**, No. 3 (1981) 753-770.
47. **Experimental Studies of the Applicability of the Kelvin Equation to Highly Curved Concave Menisci.**  
L. R. Fisher, J. N. Israelachvili. *J. Colloid Interface Sci.* **80**, No. 2 (1981) 528-541.
48. **Direct Measurement of the Effect of Meniscus Forces on Adhesion: A Study of the Applicability of Macroscopic Thermodynamics to Microscopic Liquid Interfaces.**  
L. R. Fisher, J. N. Israelachvili. *Colloids & Surfaces* **3** (1981) 303-319.
49. **Direct Measurement of Structural Forces Between Two Surfaces in a Non-Polar Liquid.** R. G. Horn, J. N. Israelachvili. *J. Chem. Phys.* **75** (1981) 1400-1411.
50. **An Ion Exchange Model for Thylakoid Stacking in Chloroplasts.** J. T. Duniec, J. N. Israelachvili, B.W. Ninham, R.M. Pashley, S. Thorne. *FEBS Letts.* **129** (1981) 193-195.
51. **Physical Principles and Modes of Interaction of Membrane Lipids and Amphiphiles.** J. N. Israelachvili, in *Chemistry and Biological Activities of Bacterial Surface Amphiphiles*, (G. D. Shockman and A. J. Wicken, Eds.), Academic Press, 119-123 (1981).
52. **Forces Between Surfaces in Liquids.**  
J. N. Israelachvili. *Adv. Colloid Interface Science* **16** (1982) 31-47.
53. **Double-Layer, van der Waals and Hydration Forces Between Surfaces in Electrolyte Solutions.** J. N. Israelachvili, R. M. Pashley, in *Biophysics of Water* (F. Franks, Ed.) Wiley, 183-194 (1982).
54. **Measurement of Forces Due to Structure in Hydrocarbon Liquids.** R. G. Horn, J. N. Israelachvili, H. K. Christenson. *J. Colloid Interface Sci.* **88** (1982) 79-88.
55. **Measurement of Adhesion and Short-Range Forces Between Molecularly Smooth Surfaces in Undersaturated Vapours and in Organic Liquids.**  
J. N. Israelachvili, R. G. Horn, H. K. Christenson, L. R. Fisher, in *Microscopic Aspects of Adhesion and Lubrication*, (J. M. Georges, Ed.), Elsevier, Amsterdam, 55-69 (1982).
56. **Adhesion Measurements.** L. R. Fisher, J. N. Israelachvili, N. S. Parker and F. Sharples, in *Microbial Adhesion to Surfaces*, Proc. S.C.I. Symposium, Reading, pp. 515-517. Publishers: Ellis Horwood Ltd., Chichester, U.K., 1980.
57. **The Hydrophobic Interaction is Long Range, Decaying, Exponentially with Distance.** J. N. Israelachvili, R. M. Pashley. *Nature* **300** (1982) 341-342.
58. **Molecular Layering of Water at Surfaces and Origin of Repulsive Hydration Forces.** J. N. Israelachvili, R. M. Pashley. *Nature* **306** (1983) 249-250.
59. **Forces Between Two Layers of Adsorbed Polystyrene Immersed in Cyclohexane Below and Above the Theta Temperature.**  
J. N. Israelachvili, M. Tirrell, J. Klein, T. Almog. *Macromolecules* **17** (1984) 204-209.
60. **DLVO and Hydration Forces Between Mica Surfaces in Mg<sup>2+</sup>, Ca<sup>2+</sup>, Sr<sup>2+</sup> and Ba<sup>2+</sup> Chloride Solutions.**  
R. M. Pashley, J. N. Israelachvili. *J. Colloid and Interface Sci.* **97** (1984) 446-455.

61.	<b>Measurement of the Hydrophobic Interaction Between Two Hydrophobic Surfaces in Aqueous Electrolyte Solutions.</b> J. N. Israelachvili, R. M. Pashley. <i>J. Colloid and Interface Sci.</i> <b>98</b> (1984) 500-514.
62.	<b>Thermodynamic and Geometric Aspects of Amphiphile Aggregation into Micelles, Vesicles and Bilayers, and the Interactions Between them.</b> J. N. Israelachvili, in <i>Physics of Amphiphiles: Micelles, Vesicles and Microemulsions</i> , (V. Degiorgio and M. Corti, eds.), North Holland, Amsterdam (1985), p. 24-58.
63.	<b>Temperature Dependence of Solvation Forces.</b> H. K. Christenson, J. N. Israelachvili. <i>J. Chem. Phys.</i> <b>80</b> (1984) 4566-4567.
64.	<b>Molecular Layering of Water in Thin Films Between Mica Surfaces and its Relation to Hydration Forces.</b> R. M. Pashley, J. N. Israelachvili. <i>J. Colloid and Interface Sci.</i> <b>101</b> (1984) 511-523.
65.	<b>Intermolecular and Surface Forces.</b> J. N. Israelachvili. Academic Press: London, First ed. (1985), Second ed. (1991), Elsevier, Inc., Third ed. (2011). Japanese translation ISBN 9780123751829 Asakura Publishing Co. Ltd. 2013.
66.	<b>Direct Methods for Measuring Conformational Water Forces (Hydration Forces) Between Membrane and Other Surfaces.</b> J. N. Israelachvili, J. Marra. <i>Methods in Enzymology</i> <b>127</b> (1986) 353-360.
67.	<b>Measurement of Hydration Forces Between Macroscopic Surfaces.</b> J. N. Israelachvili. <i>Chemica Scripta</i> <b>25</b> (1985) 7-14.
68.	<b>Physical Principles of Surfactant Self-Association Into Micelles, Bilayers, Vesicles and Microemulsion Droplets.</b> J. N. Israelachvili, in <i>Surfactants in Solution: Recent Developments</i> , Vol. 4 (K. L. Mittal, Ed.) Plenum (1987) 3-34.
69.	<b>Direct Measurements of Forces Between Phosphatidyl-choline and Phosphatidyl-ethanolamine Bilayers in Aqueous Electrolyte Solutions.</b> J. Marra, J. N. Israelachvili. <i>Biochemistry</i> <b>24</b> (1985) 4608-4618.
70.	<b>Hydrophobic Interactions.</b> J. N. Israelachvili, in <i>Physics of Complex and Super-molecular Fluids</i> (S.A. Safran & N.A. Clark, Eds.) Wiley, New York (1987) 101-114.
71.	<b>The Interdependence of Inter-Aggregate and Intra-Aggregate Forces.</b> J. N. Israelachvili, D. Sornette. <i>J. Physique</i> <b>46</b> (1985) 2125-2136.
72.	<b>Measurement of the Viscosity of Liquids in Very Thin Films.</b> J. N. Israelachvili. <i>J. Colloid and Interface Sci.</i> <b>110</b> (1986) 263-271.
73.	<b>Properties of Capillary Fluids at the Microscopic Level.</b> H. K. Christenson, J. N. Israelachvili, R. M. Pashley. <i>Soc. Petroleum Engineers Journal - SPEJ Reservoir Engineering</i> , May (1987) 155-165.
74.	<b>Measurement of the Deformation and Adhesion of Solids in Contact.</b> R.G. Horn, J.N. Israelachvili, F.Pribac. <i>J. Colloid and Interface Sci.</i> <b>115</b> (1987) 480-492.
75.	<b>Measurements of the Viscosity of Thin Films Between Two Surfaces With and Without Adsorbed Polymers.</b> J. N. Israelachvili. <i>Colloid and Polymer Science</i> <b>264</b> (1986) 1060-1065.
76.	<b>Growth of Ionic Crystallites on Exposed Surfaces.</b> H. K. Christenson, J. N. Israelachvili. <i>J. Colloid and Interface Sci.</i> <b>117</b> (1987) 576-577.
77.	<b>Liquid Structure and the Short-Range Forces Between Surfaces in Liquids.</b> J. N. Israelachvili, H. K. Christenson. <i>Physica A</i> <b>140A</b> (1986) 278-284.
78.	<b>Direct Measurements of Interactions and Viscosity of Crude Oils in Thin Films Between Model Clay Surfaces.</b> H. K. Christenson, J. N. Israelachvili. <i>J. Colloid and Interface Sci.</i> <b>119</b> (1987) 194-202.

- 79. Structuring in Liquid Alkanes Between Solid Surfaces: Force Measurements and Mean-Field Theory.**  
H. K. Christenson, D. W. R. Gruen, R. G. Horn, J. N. Israelachvili. *J. Chem. Phys.* **87** (1987) 1834-1841.
- 80. Direct Measurements of Forces Between Surfaces in Liquids at the Molecular Level.**  
J. N. Israelachvili. *Proc. Natl. Acad. Sci. USA* **84** (1987) 4722-4724. Followed by "Open discussion of papers by Israelachvili, Tirrell, and Garoff," pp. 4733-4736.
- 81. Molecular Monolayers and Films.**  
J. D. Swalen, D. L. Allara, J. D. Andrade, E. A. Chandross, S. Garoff, J. Israelachvili, T.J. McCarthy, R. Murray, R. F. Pease, J. F. Rabolt, K. J. Wynne and H. Yu. *Langmuir* **3** (1987) 932-950.
- 82. Molecular Organization and Viscosity of a Thin Film of Molten Polymer Between Two Surfaces as Probed by Force Measurements.**  
R. G. Horn, J. N. Israelachvili. *Macromolecules* **21** (1988) 2836-2841.
- 83. Solvation forces and liquid structure – As probed by direct force measurements.**  
J.N. Israelachvili. *Accounts of Chemical Research* **20** (1987) 415-421.
- 84. Experimental Study of Phase Separation in Films of Molecular Dimensions.**  
H. K. Christenson, J. Fang, J. N. Israelachvili. *Phys. Rev. B* **39** (1989) 11750-11754.
- 85. Liquid Structuring at Solid Interfaces as Probed by Direct Force Measurements: The Transition from Simple to Complex Liquids and Polymer Fluids.**  
J. N. Israelachvili, S. J. Kott. *J. Chem. Phys.* **88** (1988) 7162-7166.
- 86. Dynamic Properties of Molecularly Thin Liquid Films.**  
J. N. Israelachvili, A. M. Homola, P. M. McGuiggan. *Science* **240** (1988) 189-191.
- 87. Measurements of Dynamic Interactions in Thin Fluid Films: the Transition from Simple to Complex (Non-Newtonian) Behavior.** J. N. Israelachvili, S. J. Kott, L. Fetters. *J. Polymer Sci., Part B: Polymer Physics* **27** (1989) 489-502.
- 88. Forces Between Surfaces in Liquids.**  
J. N. Israelachvili, P. M. McGuiggan. *Science* **241** (1988) 795-800.
- 89. Adhesion of Two Solid Surfaces in Water: Effect of Rotational Mismatch of Surface Lattices.**  
P. M. McGuiggan, J. N. Israelachvili. *Chem. Phys. Letters* **149** (1988) 469-472.
- 90. Comparison of Forces Measured Between Phosphatidylcholine Bilayers.**  
R. G. Horn, J. N. Israelachvili, J. Marra, V. A. Parsegian, R. P. Rand. *Biophys. J.* **54** (1988) 1185-1187.
- 91. Concerning the Measurement of Fluid Viscosity between Curved Surfaces.**  
J. V. Alsten, S. Granick, J. N. Israelachvili. *J. Colloid Interface Sci.* **125** (1988) 739-740.
- 92. Shear Properties and Structure of Simple Liquids in Molecularly Thin Films: the Transition from Bulk (Continuum) to Molecular Behavior with Decreasing Film Thickness.**  
J. N. Israelachvili, S. J. Kott. *J. Colloid Interface Sci.* **129** (1989) 461-467.
- 93. Measurements and Relation Between the Dynamic and Static Interactions Between Surfaces Separated by Thin Liquid and Polymer Films.**  
J. N. Israelachvili. *Pure & Appl. Chem.* **60** (1988) 1473-1478.
- 94. Measurements of and Relation between the Adhesion and Friction of Two Surfaces Separated by Molecularly Thin Liquid Films.**  
M. Homola, J. N. Israelachvili, M. L. Gee, P. M. McGuiggan. *J. Tribology* **111** (1989) 675-682.
- 95. Contact Angles on Chemically Heterogeneous Surfaces.**  
J. N. Israelachvili, M. L. Gee. *Langmuir* **5** (1989) 288-289.

96. **Forces Between Mica Surfaces Across Hydrocarbon Liquids: Effects of Branching and Polydispersity.** J. N. Israelachvili, S. J. Kott, M. L. Gee, T. A. Witten. *Macromolecules* **22** (1989) 4247-4253.
97. **Techniques for Direct Measurements of Forces between Surfaces in Liquids at the Atomic Scale.**  
J. N. Israelachvili. *Chemtracts - Analytical and Physical Chemistry* **1** (1989) 1-12.
98. **Measurements of the Effect of Angular Lattice Mismatch on the Adhesion Energy Between Two Mica Surfaces in Water.**  
P. M. McGuiggan, J. N. Israelachvili. *Mat. Res. Soc. Symp. Proc.* **138** (1989) 349-360.
99. **Measurements of Static and Dynamic Interactions of Molecularly Thin Liquid Films Between Solid Surfaces.**  
P. M. McGuiggan, J. N. Israelachvili, M. L. Gee, A. M. Homola. *Mat. Res. Soc. Symp. Proc.* **140** (1989) 79-88.
100. **Entropic Orientational Forces Between Surfaces in Anisotropic Liquids.**  
J. N. Israelachvili, S. J. Kott, M. L. Gee, T. A. Witten. *Langmuir* **5** (1989) 1111-1113.
101. **Fundamental Experimental Studies in Tribology: The transition from 'interfacial' friction of undamaged molecularly smooth surfaces to 'normal' friction with wear.**  
A.M. Homola, J.N. Israelachvili, P.M. McGuiggan, M. L. Gee. *Wear* **136** (1990) 65-83.
102. **Molecular Mechanisms and Forces Involved in the Adhesion and Fusion of Amphiphilic Bilayers.**  
C. A. Helm, J. N. Israelachvili, P. M. McGuiggan. *Science* **246** (1989) 919-922.
103. **Effects of Humidity on the Structure and Adhesion of Amphiphilic Monolayers on Mica.** Y. L. Chen, M. L. Gee, C. A. Helm, J. N. Israelachvili, P. M. McGuiggan. *J. Phys. Chem.* **93** (1989) 7057-7059.
104. **Liquid to Solid-Like Transitions of Molecularly Thin Films under Shear.**  
M. L. Gee, P. M. McGuiggan, J. N. Israelachvili, A. Homola. *J. Chem. Phys.* **93** (1990) 1895-1906.
105. **Role of Hydrophobic Forces in Bilayer Adhesion and Fusion.**  
C. A. Helm, J. N. Israelachvili, P. M. McGuiggan. *Biochemistry* **31** (1992) 1794–1805.
106. **Adhesion and Short-Range Forces Between Surfaces I – New Apparatus for Surface Force Measurements.**  
J. N. Israelachvili, P. M. McGuiggan. *J. Mater. Res.* **5**, No. 10 (1990) 2223-2231.
107. **Adhesion and Short-Range Forces Between Surfaces II – Effects of Lattice Mismatch Angle on the Oscillatory Force-Law.**  
P. M. McGuiggan, J. N. Israelachvili. *J. Mater. Res.* **5**, No. 10 (1990) 2232-2243.
108. **Measurements of Forces Involved in Vesicle Adhesion using Freeze-Fracture Electron Microscopy.** S. M. Bailey, S. Chiruvolu, J. N. Israelachvili, J. A. N. Zasadzinski. *Langmuir* **6**(1990) 1326-1329.
109. **Forces between Phospholipid Bilayers and their relation to Membrane Fusion.**  
C. A. Helm, J. N. Israelachvili. *Methods in Enzymology* (Special issue on Membrane Fusion Techniques) **220 A** (1993) 130–143.
110. **Comparison of Light Scattering of Colloidal Dispersions with Direct Force Measurements between Analogous Macroscopic Surfaces.** M. L. Gee, P. Tong, J. N. Israelachvili, T. A. Witten. *J. Chem. Phys.* **93** (1990) 6057-6064.
111. **Hydration or Steric Forces between Amphiphilic Surfaces?**  
J. N. Israelachvili, H. Wennerström. *Langmuir* **6** (1990) 873-876.
112. **Entropic Forces between Amphiphilic Surfaces in Liquids.**  
J. N. Israelachvili, H. Wennerström. *J. Phys. Chem.* **96** (1992) 520–531.

113.	<b>Liquid Dynamics in Molecularly thin Films.</b> J. N. Israelachvili, P. M. McGuiggan, M. L. Gee, A. M. Homola, M. Robbins, P. Thompson. <i>J. Physics: Condensed Matter</i> <b>2</b> (1990) SA89-SA98.
114.	<b>Adhesion Forces between Surfaces in Liquids and Condensable vapors.</b> J. N. Israelachvili. <i>Surface Science Reports</i> <b>14</b> (1992) 109–159.
115.	<b>Interactions of Surfactant Monolayers across Hydrocarbon Liquids.</b> M. L. Gee, J. N. Israelachvili. <i>J. Chem. Soc. - Far. Trans.</i> <b>86</b> (1990) 4049-4058.
116.	<b>New Mechanism of Cavitation Damage.</b> Y. L. Chen, J. N. Israelachvili. <i>Science</i> <b>252</b> (1991) 1157-1160.
117.	<b>Melting-Freezing Transitions in Molecularly Thin Liquid Films during Shear.</b> J. N. Israelachvili, M. L. Gee, P. McGuiggan, P. Thompson, M. Robbins, in “ <i>Dynamics in Small Confining Systems</i> ”, Proceeding of 1990 Fall Meeting of the Materials Research Society (J.M. Drake, J. Klafter and R. Kopelman, Eds), MRSPublications, 1990, pp. 3-6.
118.	<b>Measurement of Ligand-Receptor Interactions.</b> C. Helm, W. Knoll, J. N. Israelachvili. <i>Proc. Natl. Acad. Sci. USA</i> <b>88</b> (1991) 8169-8173.
119.	<b>Molecular Mechanisms associated with Adhesion and Contact Angle Hysteresis of Monolayer Surfaces.</b> Y. L. Chen, C. Helm, J. N. Israelachvili. <i>J. Phys. Chem.</i> <b>95</b> (1991) 10736–10747.
120.	<b>Measurements of the elastic properties of surfactant and lipid monolayers.</b> Y. L. Chen, C. Helm, J. N. Israelachvili. <i>Langmuir</i> <b>7</b> (1991) 2694–2699.
121.	<b>Mechanism of cavitation damage in thin liquid films: collapse damage versus inception damage.</b> Y. L. Chen, T. Kuhl, J. N. Israelachvili. <i>Wear</i> <b>153</b> (1992) 31-51.
122.	<b>Surface exchange of polymeric amphiphiles.</b> J. Klein, Y. Kamiyama, H. Yoshizawa, J. N. Israelachvili, L. J. Fetters, P. Pincus. <i>Macromolecules</i> <b>25</b> (1992) 2062–2064.
123.	<b>Origin of short-range forces in water between clay surfaces and lipid bilayers.</b> J. N. Israelachvili, in <i>Mechanics of Swelling: From Clays to Living Cells and Tissues</i> (T. K. Karalis, Ed.) Springer-Verlag, Berlin & Heidelberg. 1992 NATO ASI Series, Vol. <b>64</b> (1992) 603–622.
124.	<b>Adhesion and short-range forces between crystalline surfaces: effects of surface lattice mismatch.</b> P. McGuiggan, J. N. Israelachvili, in <i>Structure and Property Relationships for Interfaces</i> (Eds: J. L. Walter, A. H. King & K. Tangri), ASM Publication, 1991, pp. 373–384.
125.	<b>Ligand-receptor interactions directly measured with the surface force apparatus.</b> C.A. Helm, J.N. Israelachvili, W. Knoll. <i>Makromol Chem. Macromol. Symp</i> <b>46</b> (1991) 103-111.
126.	<b>The role of the hydrophobic force in bilayer adhesion and fusion.</b> C.A. Helm, J.N. Israelachvili. <i>Makromol. Chem. Macromol. Symp</i> <b>46</b> (1991) 433-437.
127.	<b>Interfacial forces.</b> J. N. Israelachvili. <i>J. Vac. Sci. &amp; Technology</i> <b>10</b> (1992) 2961–2971.
128.	<b>Adhesion, friction and lubrication of molecularly smooth surfaces.</b> J. N. Israelachvili, in <i>Fundamentals of Friction</i> (I. L. Singer and H. M. Pollock, eds), Kluwer Academic Publishers, The Netherlands, pp. 351–385, 1992.
129.	<b>Long-range attraction and molecular rearrangements in receptor-ligand Interactions.</b> D.E. Leckband, F-J. Schmitt, W. Knoll, J. Israelachvili. <i>Science</i> <b>255</b> (1992) 1419–1421.
130.	<b>Role of Calcium in the Adhesion and Fusion of Bilayers.</b> D. E. Leckband, C. A. Helm, J. Israelachvili. <i>Biochemistry</i> <b>32</b> (1993) 1127–1140.

131. **Molecular Mechanisms and Kinetics during the Self-Assembly of Surfactant Layers.** Y. L. Chen, S. Chen, C. Frank, J. Israelachvili. *J. Colloid Interface Sci.* **153** (1992) 244–265.
132. **Basic Physics of Interactions between Surfaces in Dry, Humid and aqueous Environments.** J. N. Israelachvili, P. M. McGuiggan, R. G. Horn. *Proc. Electrochem. Soc., Vol. 92-7* (1992) 33–47.
133. **Effect of pH and Salt on the Adsorption and Interactions of an Amphoteric Polyelectrolyte.** Y. Kamiyama, J. Israelachvili. *Macromolecules* **25** (1992) 5081–5088.
134. **Identification of a Second Dynamic State during Stick-Slip Motion.** H. Yoshizawa, P. McGuiggan, J. N. Israelachvili. *Science* **259** (1993) 1305–1308.
135. **Structure and Interactions of Surfactant-Covered Surfaces in Non-aqueous (Oil-Surfactant-Water) Media.** Y. L. Chen, Z. Xu, J. Israelachvili. *Langmuir* **8** (1992) 2966–2975.
136. **Effects of Ambient Conditions on Adsorbed Surfactant Monolayers.** Y. L. Chen, J. N. Israelachvili. *J. Phys. Chem.* **96** (1992) 7752–7760.
137. **Measurements of Conformational changes during Adhesion of Lipid and Protein (Polylysine and S-Layer) Surfaces.** Deborah Leckband, You-Lung Chen, Jacob Israelachvili, H. Hollis Wickman, Madilyn Fletcher and Robert Zimmerman. *Biotech. & Bioeng.* **42** (1993) 167–177.
138. **Recent advances in molecular level understanding of adhesion, friction and lubrication.** H. Yoshizawa, Y.-L. Chen, J. N. Israelachvili. *Wear* **168** (1993) 161–166.
139. **Molecular Basis of Protein Function as Determined by Direct Force Measurements.** D. Leckband, J. N. Israelachvili. *Enzyme and Microbial Technology* **15** (1993) 450–459.
140. **Fundamental Mechanisms of Interfacial Friction I: Relation Between Adhesion and Friction.** H. Yoshizawa, Y. L. Chen, J. Israelachvili. *J. Phys. Chem.* **97** (1993) 4128–4140.
141. **Growth of a Self-Assembled Monolayer by Fractal Aggregation.** D. Schwartz, S. Steinberg, J. Israelachvili, J. A. N. Zasadzinski. *Phys. Rev. Letters* **69** (1992) 3354–3357.
142. **Lubrication forces between surfaces bearing polymer brushes.** J. Klein, Y. Kamiyama, H. Yoshizawa, J. N. Israelachvili, G. H. Fredrickson, P. Pincus, L. J. Fetters. *Macromolecules* **26** (1993) 5552–5560.
143. **Van der Waals Epitaxial Growth of  $\alpha$ -Alumina Nanocrystals on Mica.** S. Steinberg, W. Ducker, G. Vigil, C. Hyukjin, C. Frank, M. Z. Tseng, D. R. Clarke, J. N. Israelachvili. *Science* **260** (1993) 656–659.
144. **Fundamental Mechanisms of Interfacial Friction II: Stick-Slip Friction of Spherical and Chain Molecules.** H. Yoshizawa, J. Israelachvili. *J. Phys. Chem.* **97** (1993) 11300–11313.
145. **Specific protein binding to functionalized interfaces.** F-J. Schmitt, R. Blankenburg, L. Häußling, H. Ringsdorf, A. L. Weisenhorn, P. K. Hansma, D. E. Leckband, J. N. Israelachvili, W. Knoll, in *Synthetic Microstructures in Biological Research* (J. Schnur & M. Peckerar, Eds) Plenum, New York, 147–162, 1992.

## 1994

146. **Direct Force Measurements of Specific and Nonspecific Protein Interactions.** D. E. Leckband, F-J. Schmitt, J.N. Israelachvili, W. Knoll. *Biochemistry* **33** (1994) 4611–4624.
147. **Supra-Biomolecular Architectures at Functionalized Surfaces.** J. Spinke, M. Liley, F-J. Schmitt, H-J. Guder, L. Angermaier, A. L. Weisenhorn, P. K. Hansma, C. A. Helm, D. E. Leckband, J. N. Israelachvili, W. Knoll, In *Frontiers of Polymers and Advanced Materials*, Edited by P. N. Prasad, Plenum, New York, 1994, pp. 519–530.
148. **Direct Measurements of Specific Ligand–Receptor Interactions between Model Membrane Surfaces.** J. Israelachvili, D. Leckband, F-J. Schmitt, J. Zasadzinski, S. Walker, S. Chiruvolu. In *Methods for Studying Cell Adhesion* (Adam Curtis, Per Claesson & Pierre Bongrand, Eds) Springer Verlag, Ch. 3, pp. 37 – 48, 1994.
149. **Relationship between Adhesion and Friction Forces.** J. Israelachvili, Y-L. Chen, H. Yoshizawa, *J. Adhesion Science & Technology* **8** (1994) 1231–1249.
150. **Surface Forces between Alumina Surfaces in Salt Solutions: Non-DLVO Forces and the Implications for Colloidal Processing.** W. A. Ducker, Z. Xu, D. R. Clarke, J. N. Israelachvili, *J. Amer. Ceramics Soc.* **77** (1994) 437–443.
151. **Structure and Dynamics of Ion-Induced Domains in Free and Supported Monolayers and Bilayers.**  
L. L. Evert, D. E. Leckband, J. N. Israelachvili, *Langmuir* **10** (1994) 303–315.
152. **Relationship between adhesion and friction forces across thin Films.**  
H. Yoshizawa, J. Israelachvili, *Thin Solid Films* **246** (1994) 71–76.
153. **Interactions of Silica Surfaces.** G. Vigil, Z. Xu, S. Steinberg, J. Israelachvili, *J. Colloid Interface Sci.* **165** (1994) 367–385.
154. **Direct visualization of cavitation and damage in ultrathin liquid films.**  
Tonya Kuhl, Marina Ruths, You-Lung Chen, Jacob Israelachvili, *Journal of Heart Valve Disease* **3** (1994) S117–S127.
155. **Modulation of Interaction Forces between Lipid Bilayers Exposing Short-Chained Ethylene Oxide Headgroups.** T. L. Kuhl, D. E. Leckband, D. D. Lasic, J. N. Israelachvili, *Biophys. J.* **66** (1994) 1479–1488.
156. **The X-Ray Surface Forces Apparatus: Structure of a Smectic Liquid Crystal under Confinement and Flow.** S. H. J. Idziak, C. R. Safinya, R. Hill, K. E. Kraiser, M. Ruths, H. E. Warriner, S. Steinberg, K. S. Liang, J. N. Israelachvili, *Science* **264** (1994) 1915–1918.
157. **The Science and Applications of Emulsions.**  
J. Israelachvili, *Colloids and Surfaces A*, **91** (1994) 1–8.
158. **Higher Order Self-Assembly of Vesicles via Site-Specific Binding.** S. Chiruvolu, J. Israelachvili, D. Leckband, F-J. Schmitt, S. Walker, J. Zasadzinski, *Science* **264** (1994) 1753–1756.
159. **Self-Assembly in Two Dimensions: Surface Micelles and Domain Formation in Monolayers.** J. Israelachvili, *Langmuir* **10** (1994) 3774–3781.
160. **Measurements of Hydrophobic and DLVO Forces in Bubble-Surface Interactions in Aqueous Solutions.**  
W. A. Ducker, Z. Xu, J. N. Israelachvili, *Langmuir* **9** (1994) 3279–3289.
161. **Strength of Van Der Waals Attraction between Lipid Bilayers.**  
J. N. Israelachvili, *Langmuir* **10** (1994) 3369–3370.
162. **Structure of Complex Fluids under Flow and Confinement.** S.H.J. Idziak, C. R. Safinya, E.B. Sirota, R.F. Bruinsma, K.S. Liang, J.N. Israelachvili. In *Structure and Flow in Surfactant Solutions*, ACS Symp. Series 578 (C.A. Herb & R.K. Prud'homme, Eds) American Chemical Society, Washington DC, **Ch. 20**, pp. 288–299, 1994.

**163. The Relationship between Adhesion and Friction.**

J. Israelachvili, Y-L. Chen, H. Yoshizawa, S. Steinberg, G. Vigil, Z. Xu, *Le Vide, les Couches Mince*s, Vol. **50**, No. 274 (1994) 409–414.

## 1995

164. **The Structure and Stability of Phospholipid Bilayers by Atomic Force Microscopy.** S. W. Hui, R. Viswanathan, J. A. N. Zasadzinski, J. N. Israelachvili, *Biophys J.* **68** (1995) 171–178.
165. **Modulation and Modeling of Interaction Forces between Lipid Bilayers Exposing terminally Grafted Polymer Chains.** T. L. Kuhl, D. E. Leckband, D. D. Lasic, J. N. Israelachvili. In *CRC Handbook on Stealth Liposomes*, Dan Lasic & Frank Martin, Eds, CRC Press, Boca Raton, Florida, Ch. 8, pp. 73–91 (1995).
166. **Surface forces and microrheology of molecularly thin liquid films.** J. N. Israelachvili, *CRC Handbook of Micro/Nanotribology*, Ch. 8, pp. 267–319, CRC Press, Boca Raton, Florida, 1995.
167. **Surface Forces.** J. Israelachvili, *CRC Handbook of Surface Imaging and Visualization*, Ch. 58, pp. 793–816, CRC Press, Boca Raton, Florida, 1995.
168. **Adhesion energy hysteresis and friction between ultrathin polyglutamate films measured with the surface forces apparatus.** F-J. Schmitt, H. Yoshizawa, A. Schmidt, G. Duda, W. Knoll, G. Wegner, J. Israelachvili. *Macromolecules* **28** (1995) 3401–3410.
169. **Irreversibility, energy dissipation and time effects in intermolecular and surface interactions.** J. N. Israelachvili, A. Berman. *Israel J. Chemistry* **35** (1995) 85–91.
170. **Nanotribology: friction, wear and lubrication at the atomic scale.** B. Bhushan, J. N. Israelachvili, U. Landman, *Nature* **374** (1995) 607–616.
171. **Study of Flow in a Smectic Liquid Crystal in the X-Ray Surface Forces Apparatus.** S. H. J. Idziak, I. Koltover, K. S. Liang, J. N. Israelachvili, C. R. Safinya, *Int. J. Thermophysics* **16** (1995) 299–307.
172. **Direct force and friction measurements reflecting structural changes in confined diblock copolymer liquids.** S. M. Kilbey II, F. S. Bates, M. Tirrell, R. Hill, H. Yoshizawa, J. Israelachvili. *Macromolecules* **28** (1995) 5626 – 5631.
173. **Measurement of forces between spontaneous vesicle-forming bilayers.** S. Chiruvolu, J. Israelachvili, E. Naranjo, Z. Xu, J. A. Zasadzinski, E. W. Kaler, K. L. Herrington. *Langmuir* **11** (1995) 4256–4266.
174. **Origin of energy dissipation and other tribological processes at the molecular level.** Jacob Israelachvili and Alan Berman, *Proc. International Tribology Conference (Yokohama)* **III** (1995) 1883–1888.
175. **Relationship between Adhesion and Friction Forces.** J. Israelachvili, Y-L. Chen, H. Yoshizawa, In *Fundamentals of Adhesion and Interfaces* (D. S. Rimai, L.P. DeMejo & K.L. Mittal, Eds) VSP, pp. 261-279 (1995)
176. **Applications of the X-Ray Surface Forces Apparatus (XSFA) to Studies of Confined Complex Fluid Systems.** I. Koltover, S. J. Idziak, C. R. Safinya, S. Steinberg, J. Israelachvili, K. S. Liang, *Materials Research Society Symp. Proc.* **366** (1995) 101–112.
177. **Specific recognition at functionalized interfaces: direct force measurements of biomolecular interactions.** D. Leckband, J. N. Israelachvili. In *Thin Films – Organic Thin Films and Surfaces* (A. Ulman, Ed.) Academic Press. Vol. 20, Ch. 9, pp. 207–222 (1995).

## 1996

178. **Alignment of Complex Fluids Under Confinement and Flow.** I. Koltover, S. H. J. Idziak, P. Davidson, Y. Li, C. R. Safinya, M. Ruths, S. Steinberg, J. N. Israelachvili, *J. Physique II* (France) **6** (1996) 893–907.
179. **Structure in a Confined Smectic Liquid Crystal with Competing Surface and Sample Elasticities.** S. H. J. Idziak, I. Koltover, J. N. Israelachvili, and C. R. Safinya, *Physical Review Letters* **76** (1996) 1477–1480.
180. **Origin and characterization of different stick-slip friction mechanisms.** Alan D. Berman, William A. Ducker, Jacob N. Israelachvili, *Langmuir* **12** (1996) 4559–4563.
181. **Direct measurement of polyethylene glycol induced depletion attraction between lipid bilayers.** T. L. Kuhl, Y. Guo, J. L. Aldferfer, A. Berman, D. Leckband, J. Israelachvili, S. W. Hui, *Langmuir* **12** (1996) 3003–3014.
182. **Role of hydration and water structure in biological and colloidal interactions.** J. Israelachvili, H. Wennerström, *Nature* **379** (1996) 219 – 225.
183. **Adsorption onto solid surfaces from oil-surfactant-water mixtures.** J. Israelachvili, S. Giasson, T. Kuhl, G. Luengo, in *Fundamentals of Wetting*, Proc. 3rd Int. Symp. on Evaluation of Reservoir Wettability and its Effects on Oil Recovery, University of Wyoming (Publishers), Laramie, 1996, pp. 1–4.
184. **Adsorption of dipolar (zwitterionic) surfactants to dipolar surfaces.** Patricia Chavez, W. Ducker, J. Israelachvili, Kathryn Maxwell, *Langmuir* **12** (1996) 4111–4115.
185. **Forces between crystalline alumina (sapphire) surfaces in aqueous sodium dodecylsulfate solutions.** Zhenge Xu, William Ducker, Jacob Israelachvili, *Langmuir* **12** (1996) 2263–2270.
186. **Depletion attraction versus steric repulsion in a system of weakly adsorbing polymer.** M. Ruths, H. Yoshizawa, L. Fetter, J. Israelachvili, *Macromolecules* **29** (1996) 7193–7203.
187. **The effects of confinement and shear on the properties of thin films of thermotropic liquid crystal.** M. Ruths, S. Steinberg, J. Israelachvili, *Langmuir* **12** (1996) 6637–6650.
188. **Direct measurements of long-range forces.** Jacob Israelachvili, Proceedings of *Solid-Solid Interactions*, Imperial College Press (1996) 287–290.
189. **Very low viscosity at the solid-liquid interface induced by adsorbed C<sub>60</sub> monolayers.** Samuel E. Campbell, Gustavo Luengo, Vojislav I. Srđanov, Fred Wudl, Jacob N. Israelachvili, *Nature* **382** (1996) 520–522.
190. **Experimental and theoretical investigations of stick-slip friction mechanisms.** A. D. Berman, W. A. Ducker, J. N. Israelachvili, in *Physics of Sliding Friction*, NATO Advanced Science Institute Series, Edited by B. Persson & E. Tosati, Kluwer Academic Publishers, Dordrecht, Ch. 3, pp. 51–67, 1996.
191. **Generalized effects in confined fluids: New friction map for boundary lubrication.** G. Luengo, J. Israelachvili, S. Granick, A. Dhinojwala, *Wear* **200** (1996) 328–335.
192. **Structure under Confinement in a Smectic-A and Lyotropic Surfactant Hexagonal Phase.** S. H. J. Idziak, I. Koltover, P. Davidson, M. Ruths, Y. Li, J. N. Israelachvili, C. R. Safinya, *Physica B* **221** (1996) 289–295.

## 1997

193. **Control and minimization of friction via surface modification.** A. D. Berman, J. N. Israelachvili, in *Micro/Nanotribology and its Applications*, NATO Advanced Science Institute Series, Edited by B. Bhushan, Kluwer Academic Publishers, Dordrecht, 1997, 317–329.
194. **Thin film rheology and tribology of confined polymer melts: contrasts with bulk properties.** Gustavo Luengo, Franz-Josef Schmitt, Robert Hill, Jacob Israelachvili, *Macromolecules* **30** (1997) 2482–2494.
195. **Effects of time and compression on the interactions of adsorbed polystyrene layers in a near  $\square$ -solvent.** Marina Ruths, Jacob Israelachvili, Harry Ploehn, *Macromolecules* **30** (1997) 3329–3339.
196. **Structure of phospholipid monolayers containing polyethylene glycol lipids at the air-water interface.** J. Majewski, T. L. Kuhl, M. C. Gerstenberg, J. N. Israelachvili, G. S. Smith, *J. Phys. Chem.* **101**(1997) 3122-3129.
197. **Estimating the Metal-Ceramic van der Waals Adhesion Energy.** Don M. Lipkin, Jacob Israelachvili, David R. Clarke, *Phil. Mag. A* **76** (1997) 715–728.
198. **Thin film morphology and tribology of food emulsions: a study of three mayonnaise samples.** S. Giasson, J. Israelachvili, H. Yoshizawa, *J. Food Science* **62** N4 (1997) 640-652.
199. **Thin film rheology and tribology of chocolate.** G. Luengo, M. Tsuchiya, M. Heuberger, J. Israelachvili, *J. Food Science* **62** (1997) 767–812.
200. **Topographic information from multiple beam interferometry in the Surface Forces Apparatus.** M. Heuberger, G. Luengo, J. Israelachvili, *Langmuir* **13** (1997) 3839–3848.
201. **Mobility of Surfactants in and between Adsorbed Monolayers.** A.D. Berman, S. Cameron, J. Israelachvili, *J. Phys. Chem. B* **101** (1997) 5692-5697.
202. **The different faces of poly(ethylene glycol).** Jacob Israelachvili, *Proc. Natl. Acad. Sci. (USA)* **94** (1997) 8378–8379.
203. **Direct Measurement of a Tethered Ligand-Receptor Interaction Potential.** Joyce Y. Wong, Tonya L. Kuhl, Jacob N. Israelachvili, Nasreen Mullah, Samuel Zalipsky, *Science* **275** (1997) 820–822.
204. **Direct Measurement of the Adhesion and Friction of Smooth C<sub>60</sub> Surfaces.** Gustavo Luengo, Samuel E. Campbell, Vojislav I. Srdanov, Fred Wudl, Jacob N. Israelachvili, *Chemistry of Materials* **9** (1997) 1166–1171.
205. **Hydration in electric double layers – reply.** *Nature* **385** (1997) 690.

## 1998

206. **Adsorption and interaction forces of micellar and microemulsion solutions in ultrathin films.** S. Giasson, T. Kuhl, J. Israelachvili, *Langmuir* **14** (1998) 891–898.
207. **Controlled microtribology of a metal oxide surface.** A. Berman, S. Steinberg, S. Campbell, A. Ulman, J. Israelachvili, *Tribology Letters* **4** (1998) 43–48.
208. **Coupling of normal and transverse motions during frictional sliding.** M. Heuberger, C. Drummond, J. Israelachvili, *J. Phys. Chem. B* **102** (1998) 5038–5041.
209. **Amontons' Law at the molecular level.** Alan Berman, Carlos Drummond, Jacob Israelachvili, *Tribology Letters* **4** (1998) 95–101.
210. **Friction and adhesion hysteresis of fluorocarbon surfactant monolayer-coated surfaces measured with the surface forces apparatus.** S. Yamada, J. Israelachvili. *J. Phys. Chem. B* **102** (1998) 234–244.
211. **Direct surface force and contact angle measurements of an adsorbed polymer with a lower critical solution temperature.** F-J. Schmitt, C. Park, J. Simon, H. Ringsdorf, J. Israelachvili. *Langmuir* **14** (1998) 2838–2845.
212. **Formation of tethered supported bilayers via membrane-inserting reactive lipids.** M. Seitz, J. Y. Wong, C. K. Park, N. A. Alcantar, J. Israelachvili. *Thin Solid Films* **327-329** (1998) 767–771.
213. **Temperature and time effects in the ‘adhesion dynamics’ of poly-butyl-methacrylate (PBMA) surfaces.** Gustavo Luengo, Jian-meи Pan, Manfred Heuberger, Jacob N. Israelachvili. *Langmuir* **14** (1998) 3873–3881.
214. **An X-ray synchrotron study of packing and protrusions of polymer lipid monolayers at the air-water interface.** J. Majewski, T. L. Kuhl, K. Kjaer, M. C. Gerstenberg, J. Als-Nielsen, J. Israelachvili, G. S. Smith. *J. Am. Chem. Soc.* **120** (1998) 1469–1473.
215. **Direct measurement of depletion attraction and thin-film viscosity between lipid bilayers in aqueous polyethylene oxide solutions.** Tonya L. Kuhl, Alan D. Berman, Sek Wen Hui, Jacob N. Israelachvili, *Macromolecules* **31** (1998) 8250–8257.
216. **Cross-over from depletion attraction to adsorption: Polyethylene glycol induced electrostatic repulsion between lipid bilayers.** Tonya L. Kuhl, Alan D. Berman, Sek-Wen Hui, Jacob N. Israelachvili, *Macromolecules* **31** (1998) 8258–8263.
217. **A neutron reflectivity study of polymer modified phospholipid monolayers at the solid-solution interface: PEG-lipids on silane modified substrates.** T.L. Kuhl, J. Majewski, J.Y. Wong, S. Steinberg, D. E. Leckband, J. N. Israelachvili, G.S. Smith. *Biophys J.* **75** (1998) 2352–2362.
218. **Structure and forces in transfection related surfactant systems.** S. E. Campbell, C. K. Park, D. D. Lasic, J. N. Israelachvili. *Mat. Res. Soc. Symposium Proceedings on “Materials Science of the Cell”* **489** (1998) 19–24.

## 1999

219. **Surface Forces and Microrheology of molecularly thin liquid films.** Alan Berman, Jacob N. Israelachvili, *CRC Handbook of Micro/Nanotribology*, 2nd Ed. B. Bhushan, Ed., CRC Press, Boca Raton & New York (1999) Ch. 9, pp. 371-425.
220. **Structural studies of polymer-cushioned lipid bilayers.** J. Majewski, J. Wong, C. K. Park, M. Seitz, J. N. Israelachvili, G. S. Smith. *Biophys J.* **75** (1999) 2363–2367.
221. **Effect of water plasma on silica surfaces: synthesis, characterization & application.** N. A. Alcantar, E. S. Aydil, J. N. Israelachvili. In *Fundamental and applied aspects of chemically modified surfaces*, Royal Society of Chemistry, Cambridge, UK, pp. 212-222 (1999).
222. **Modified dynamic properties of fluids at surfaces and in confined geometries.** J. Israelachvili, C. Drummond. *Tribology on the 300<sup>th</sup> Anniversary of Amontons' Law, 1999 MRS Workshop Series*, San Jose, Publisher: MRS, Warrendale, PA, 63-65 (1999).
223. **Microtribology and direct force measurement of WS<sub>2</sub> nested fullerene-like nanostructures.** Yuval Golan, Carlos Drummond, Moshe Homyonfer, Yishai Feldman, Reshef Tenne, Jacob Israelachvili. *Advanced Materials* **11** (1999) 934-937.
224. **Film balance and fluorescence microscopic investigation of the effects of Ca<sup>2+</sup> on mixed DMPC/DMPG monolayers.** C. K. Park, F. J. Schmitt, L. Evert, D. K. Schwartz, J. N. Israelachvili, C. M. Knobler. *Langmuir* **15** (1999) 202–206.
225. **Interactions between surfactant-coated surfaces in hydrocarbon liquids containing functionalized polymer dispersant.** S. Giasson, D. A. Weitz, J. N. Israelachvili. *Colloid & Polymer Sci.* **277** (1999) 403-413.
226. **Polymer-Cushioned Bilayers – I. A Structural Study of Various Preparation Methods Using Neutron Reflectometry** J. Y. Wong, J. Majewski, M. Seitz, C. K. Park, J. N. Israelachvili, G. S. Smith. *Biophys. J.* **77** (1999) 1445-1457.
227. **Packing stress relaxation in polymer-lipid monolayers at the air-water interface by x-ray grazing incidence diffraction and reflectivity.** T. L. Kuhl, J. Majewski, P. Howes, K. Kjaer, B. Ocko, J. N. Israelachvili, G. S. Smith. *JACS* **121** (1999) 7682-7688.
228. **Use of Poly(ethylene glycol) to control cell aggregation and fusion.** S.W. Hui, T. Kuhl, Y. Q. Guo, J. Israelachvili. *Colloids & Surfaces B: Biointerfaces* **14** (1999) 213-222.
229. **Tribology of shearing polymer surfaces. Part 1 – Mica sliding on polymer (PnBMA).** M. Heuberger, G. Luengo, J. N. Israelachvili. *J. Phys. Chem. B* **103** (1999) 10127-10135.
230. **Polymer-cushioned bilayers – II. An investigation of interaction forces and fusion using the Surface Forces Apparatus.** J. Y. Wong, C. K. Park, M. Seitz, J. Israelachvili, *Biophys. J.* **77** (1999) 1458-1468.
231. **Study of the fusion process between solid- and soft-supported phospholipid bilayers with the surface forces apparatus.** Markus Seitz, Chad K. Park, Joyce Y. Wong, Jacob N. Israelachvili. In *Supramolecular Structure in Confined Geometries*, ACS Symposium Series 736, Ch. 15, pp. 215-230 (1999).

## 2000

232. **In-Situ Imaging of Shearing contacts in the Surface Forces Apparatus.** Y. Golan, C. Drummond, J. Israelachvili, R. Tenne, *Wear* **245** (2000) 190-195.
233. **Long- and short-range forces between hydrophilic surfaces and biopolymers in aqueous solutions.** J. Israelachvili, in *Hydrocolloids*, Part 1, Physical Chemistry and Industrial Application of Gels, Polysaccharides, and Proteins. (Proceedings of the International Conference on Hydrocolloids, Osaka, Japan, *Plenary Lecture*, Oct., 1998), K. Nishinari ed., Elsevier, Amsterdam, pp. 3-21 (2000).
234. **Polyethylene glycol-coated biocompatible surfaces.** Norma A. Alcantar, Eray S. Aydil, Jacob N. Israelachvili. *J. Biomed. Mater. Res.* **51** (2000) 343-351.
235. **Formation of tethered supported bilayers by vesicle fusion onto lipopolymer monolayers promoted by osmotic stress.** M. Seitz, E. Ter-Ovanesyan, M. Hausch, C. K. Park, J. A. Zasadzinski, R. Zentel, J. N. Israelachvili, *Langmuir*, **16** (2000) 6067-6070.
236. **Dynamic Behavior of Confined Branched Hydrocarbon Lubricant Fluids under Shear.** Carlos Drummond & Jacob Israelachvili, *Macromolecules*, **33** (2000) 4910-4920.
237. **Microtribology and Microrheology of Molecularly Thin Liquid Films.** A. D. Berman & J. Israelachvili, *Modern Tribology Handbook*, Vol. 1, Chapter 16, pp. 567-615, B. Bhushan, Ed., CRC Press, Boca Raton, Florida (2000).
238. **Some fundamental differences in the adhesion and friction of rough *versus* smooth surfaces.** J. Israelachvili, S. Giasson, T. Kuhl, C. Drummond, A. Berman, G. Luengo, J.-M. Pan, M. Heuberger, W. Ducker, N. Alcantar. In "*Thinning films and tribological interfaces*", Proceedings of the 26th Leeds-Lyon Symposium, Tribology Series 38, Elsevier, pp. 3-12 (2000).
239. **Generic substrate for the Surface Forces Apparatus: deposition and characterization of silicon nitride surfaces.** Y. Golan, N. A. Alcantar, T. L. Kuhl, J. N. Israelachvili. *Langmuir* **16** (2000) 6955-6960.
240. **Tribology of shearing polymer surfaces. Part II – Polymer (PBMA) sliding on Mica.** G. Luengo, M. Heuberger, J. N. Israelachvili. *J. Phys. Chem.* **104** (2000) 7944-7950.
241. **Neutron Confinement Cell for investigating complex fluids.** Tonya Kuhl, Jacob Israelachvili, *Rev. Sci. Instruments* **72** (2000) 1715-1720.

## 2001

242. **Inverted Stick-Slip Friction.** P. Richetti, C. Drummond, J. Israelachvili, M. In, R. Zana. *Europhys. Letters* **55** (2001) 653-659.
243. **Microtribology and friction-induced material transfer in WS<sub>2</sub> nanoparticle additives.** Carlos Drummond, Norma Alcantar, Jacob Israelachvili, Reshef Tenne, Yuval Golan. *Advanced Functional Materials* **11** (2001) 348-354.
244. **Impact of polymer tether length on multiple ligand-receptor bond formation.** Claus Jeppesen, Joyce Y. Wong, Tonya L. Kuhl, Jacob N. Israelachvili, Nasreen Mullah, Samuel Zalipsky, Carlos M. Marques. *Science* **293** (2001) 465-468.
245. **Putting liquids under molecular-scale confinement.** Jacob Israelachvili, Delphine Gourdon. *Science* **292** (2001) 867-868.
246. **Direct Observation of shear-induced orientational phase coexistence in a lyotropic system using a modified X-ray surface forces apparatus.** Yuval Golan, Ana Martin, Youli Li, Cyrus R. Safinya, Jacob Israelachvili. *Phys. Rev. Letters* **86** (2001) 1263-1266.
247. **In situ X-ray diffraction studies of a multilayered membrane fluid under confinement and shear.** Youli Li, Yuval Golan, Ana Martin-Herranz, Olivier Pelletier, Mario Yasa, Jacob Israelachvili, Cyrus Safinya. *Int. J. Thermophysics* **22** (2001) 1175-1184.
248. **Dynamic Phase Transitions in confined Lubricant Fluids under Shear** Carlos Drummond and Jacob Israelachvili, *Phys. Rev. E* **63** (2001) 041506: 1-11.
249. **Surface forces and wettability.** Carlos Drummond, Jacob Israelachvili, *Journal of Petroleum Science and Engineering (JPSE)* **33/1-3** (2001) 123-133.
250. **Polymer induced membrane contraction, phase separation and fusion via Marangoni flow.** Sam A. Safran, Tonya L. Kuhl, Jacob N. Israelachvili *Biophys. J.* **81** (2001) 659-666.
251. **Tribology of ideal and non-ideal surfaces and fluids.** Jacob Israelachvili. In “*Fundamentals of Tribology – Bridging the gap between the macro-, micro- and nano-scales*”, NATO Advanced Science Institute Series, Edited by B. Bhushan, Kluwer Academic Publishers, Dordrecht, pp. 631–650, 2001.
252. **Discussion Forum Report: Bridging the Gap Between Macro- and Micro/Nanoscale Lubrication.** J. Israelachvili and H. Spikes. In “*Fundamentals of Tribology – Bridging the gap between the macro-, micro- and nano-scales*”, NATO Advanced Science Institute Series, Edited by B. Bhushan, Kluwer Academic Publishers, Dordrecht, pp. 799–802, 2001.
253. **Intermolecular forces in biology.** Deborah Leckband, Jacob Israelachvili, *Quart. Revs. Biophys.* **34** (2) (2001) 105-267.
254. **Long-range interaction forces between polymer-supported lipid bilayer membranes.** Markus Seitz, Chad K. Park, Joyce Y. Wong, Jacob N. Israelachvili. *Langmuir* **17** (2001) 4616-4626.
255. **Pressure-induced freezing of the hydrophobic core leads to a L<sub>1</sub> ↔ H<sub>1</sub> phase transition for C<sub>12</sub>E<sub>5</sub> micelles in D<sub>2</sub>O.** D. P. Bossev, S. R. Kline, J. N. Israelachvili, M. E. Paulaitis. *Langmuir* **17** (2001) 7728-7731.

## 2002

256. **Nanoscale Mechanism of evaporation, condensation and nucleation in confined geometries.** Nobuo Maeda, Jacob Israelachvili. *J. Phys. Chem.* **106** (2002) 3534-3537.
257. **Forces and ionic transport between mica surfaces: Implications for pressure solution.** Norma Alcantar, Jacob Israelachvili, Jim Boles. *Geochimica et Cosmochimica Acta* **67**, 7 (2002) 1289-1304
258. **Debye length and double-layer forces in polyelectrolyte solutions.** Rafi Tadmor, Ernesto Hernandez-Zapata, Nianhuan Chen, Phil Pincus, Jacob Israelachvili. *Macromolecules* **35**, 6 (2002) 2380-2388.
259. **The x-ray surface forces apparatus for simultaneous x-ray diffraction and direct normal and lateral force measurements.** Yuval Golan, Markus Seitz, Ci Luo, Ana Martin-Herranz, Mario Yasa, Youli Li, Cyrus R. Safinya, Jacob Israelachvili. *Rev. Sci. Instr.* **73**, 6 (2002) 2486-2488.
260. **Shear alignment of confined hydrocarbon liquid films.** C. Drummond, N. Alcantar, J. Israelachvili. *Phys. Rev. E* **66** (1): art. no. 011705, July 2002.
261. **Adhesion and friction mechanisms of polymer-on-polymer surfaces.** Nobuo Maeda, Nianhuan Chen, Matthew Tirrell, Jacob N. Israelachvili, *Science* **297** (2002) 379-382.
262. **Evidence for van der Waals adhesion in gecko setae.** Autumn K, Sitti M, Liang YCA, Peattie AM, Hansen WR, Sponberg S, Kenny TW, Fearing R, Israelachvili JN, Full RJ, *PNAS* **99**, 19 (2002) 12252-12256.
263. **Thin-film rheology and lubricity of hyaluronic acid solutions at a normal physiological concentration.** Rafael Tadmor, Nianhuan Chen, Jacob N. Israelachvili. *J. Biomed. Mat. Res.* **61**, 4 (2002) 514-523.

## 2003

264. **Transitions between smooth and complex stick-slip sliding of surfaces.** Delphine Gourdon and Jacob Israelachvili. *Phys. Rev. E* **68** (2003) 021602 1-10.
265. **Thickness and refractive index measurements using multiple beam interference fringes (FECO).** R. Tadmor, Nianhuan Chen, J. Israelachvili. *J. Colloid Interface Sci.* **264** (2003) 548-553.
266. **Sealed minitrough for microscopy and long term stability studies of Langmuir monolayers.** Yufang Hu, Ka Yee Lee, J. Israelachvili *Langmuir* **19**, 1 (2003) 100-104.
267. **Adhesion and coalescence of ductile metal surfaces and nano-particles.** Alcantar, N. A., Park, C., Pan, J. M., Israelachvili, J. N., *Acta Materialia* **51** (2003) 31-47.
268. **Evaporation and instabilities of microscopic capillary bridges.** Maeda, N., Israelachvili, J.N., Kohonen, M.M., *PNAS* **100**, 3 (2003) 803-808.
269. **Friction between two weakly adhering boundary lubricated surfaces in water.** C. Drummond, J. Israelachvili, Phillippe Richetti. *Phys. Rev. E* **67** (2003) 066110 1-16.
270. **Boundary friction of aromatic silane SAMs measured with the SFA and FFM.** M. Ruths, N. A. Alcantar, J. N. Israelachvili. *J. Phys. Chem.* **107** (2003) 11149-11157.
271. **Surface forces and nanorheology of thin liquid films.** Marina Ruths, Alan Berman, Jacob Israelachvili. In *Handbook of Nanotechnology*, Chapter 18, pp 543-603, B. Bhushan, Ed., Springer-Verlag, 2003.

## 2004

272. **Correlation of AFM and SFA measurements concerning the stability of supported lipid bilayers.** Marcel Benz, Thomas Gutsmann, Nianhuan Chen, Rafael Tadmor, Jacob Israelachvili. *Biophys. J.* **86** (2004) 870-879.
273. **Fundamental studies of crude oil-surface-water interactions and its relationship to reservoir wettability.** C. Drummond, J. Israelachvili. *J. Petroleum Science & Engineering (JPSE)* **45** (2004) 61-81.
274. **Role of lipid interactions in autoimmune demyelination.** Benjamin Ohler, Karlheinz Graf, Richard Bragg, Travis Lemons, Robert Coe, Claude Genain, Jacob Israelachvili, Cynthia Husted. *Biochim. et Biophys. Acta – Mol. Basis of Disease* **1688** (2004) 10-17.
275. **Large deformations during the coalescence of fluid interfaces.** Nianhuan Chen, Tonya Kuhl, Rafael Tadmor, Qi Lin and Jacob Israelachvili. *PRL* **92** (2004) 024501.
276. **Mechanical and structural properties of BaCrO<sub>4</sub> nanorod films under confinement and shear.** Delphine Gourdon, Mario Yasa, Anna R. Godfrey, Youli Li, Cyrus R. Safinya and Jacob Israelachvili, *Adv. Functional Materials* **14** (2004) 238-242.
277.  **$\alpha,\omega$ - Bis(thioacetyl)oligophenylenevinylene Chromophores from Thioanisol Precursors.** Dwight S. Seferos, David A. Banach, Norma A. Alcantar, Jacob N. Israelachvili, Guillermo C. Bazan. *J. Organic Chem.* **69** (2004) 1110-1119.
278. **Further studies on the effect of de-gassing on the dispersion and stability of surfactant-free emulsions.** N. Maeda, K. J. Rosenberg, J. N. Israelachvili and R. M. Pashley. *Langmuir* **20** (2004) 3129-3137.
279. **Preparation of contamination-free mica substrates for surface characterization, force measurements and imaging.** Jacob Israelachvili, Norma A. Alcantar, Nobuo Maeda, Tom Mates, Marina Ruths. *Langmuir* **20** (2004) 3616-3622.
280. **Normal and shear forces between mica and model membrane surfaces with adsorbed hyaluronan.** Nianhuan Chen, R. Tadmor, J. Israelachvili. *Macromolecules* **36** (2004) 9519-9526.
281. **The physico-chemical basis of self-assembling structures.** Jacob Israelachvili and Ilya Ladyzhinski, in "Forces, Growth and Form in Soft Condensed Matter: At the Interface between Physics and Biology", NATO ASI, Eds. Arne T. Skjeltorp and Alexander V. Belushkin (Kluwer, 2004) pgs. 1-28.
282. **Frictional forces and Amontons Law: from the molecular to the macroscopic scale.** Jianping Gao, W. D. Luedtke, D. Gourdon, M. Ruths, J. Israelachvili, U. Landman. *J. Chem. Phys.* **108** (2004) 3410-3425. (Feature Article)
283. **The nonlinear nature of friction.** Michael Urbakh, Joseph Klafter, Delphine Gourdon, Jacob Israelachvili. *Nature* (2004) **403** 525-528.
284. **Synergistic interactions of lipids and myelin basic protein.** Yufang Hu, Ivo Doudevski, Denise Wood, Mario Moscarello, Cynthia Husted, Claude Genain, Joseph A. Zasadzinski, and Jacob Israelachvili. *PNAS* (2004) **101** (37) 13466-13471.
285. **Lubrication and wear properties of grafted polyelectrolytes, hyaluronan and hylan, measured in the surface forces apparatus.** Marcel Benz, Nianhuan Chen, Jacob Israelachvili. *J. Biomedical Materials Research (2004): Part A* **71** (1) 6-15.
286. **Ordered patterns of liquid crystal toroidal defects by microchannel confinement.** Myung Chul Choi, Thomas Pfohl, Zhiyu Wen, Youli Li, manh Won Kim Jacob N. Israelachvili, and Cyrus Safinya. *PNAS* (2004) **101** (50) 17340-17344.

## 2005

287. **Effects of Dissolved Gas on the Hydrophobic Attraction between Surfactant-Coated Surfaces.** Emily E. Meyer, Qi Lin, and Jacob Israelachvili. *Langmuir* (2005) **21**(1), 256-259.
288. **Measurement of the Long- and Short-Range Hydrophobic Attraction between Surfactant-Coated Surfaces.** Qi Lin, Emily E. Meyer, Maria Tadmor, Jacob N. Israelachvili, and Tonya Kuhl. *Langmuir* (2005) **21**(1), 251-255.
289. **Static Forces, Structure and Flow Properties of Complex Fluids in Highly Confined Geometries.** Marcel Benz, Nianhuan Chen, and Jacob Israelachvili. *Ann. Biomed. Eng.* **33** (2005) (1) 39-51.
290. **Adhesion and Friction of Polymer surfaces: The effect of chain ends.** Nianhuan Chen, Nobuo Maeda, Matt Tirrell, and Jacob Israelachvili. *Macromolecules* **38** (2005) 3491-3503.
291. **Origin of the long-range attraction between surfactant-coated surfaces.** Emily E. Meyer, Qi Lin, Tue Hassenkam, Emin Oroudjev, and Jacob N. Israelachvili. *PNAS* **102** (2005) 6839-6842.
292. **Reduced water density at hydrophobic surfaces: Effect of dissolved gases.** Dhaval A. Doshi, Erik B. Watkins, Jacob N. Israelachvili, and Jaroslaw Majewski. *PNAS* **102** (2005) 9458-9462.
293. **Skimming the Surfaces.** Jacob Israelachvili. *Nature* **435** (2005) 893-895.
294. **Crystallization in Thin Liquid films Induced by Shear.** Mustafa Akbulut, Nianhuan Chen, Nobuo Maeda, Jacob Israelachvili, Torsten Grunewald and Christiane A. Helm. *J. Phys. Chem. B* **109** (2005) 12509-12514.
295. **Importance of Pico-Scale Topography of surfaces for Adhesion, Friction, and Failure.** Jacob N. Israelachvili. *MRS Bulletin* **30** (2005) 533-539.
296. **Effects of Sub-angstrom (pico-scale) structure of surfaces on adhesion, friction, and bulk mechanical properties.** Jacob Israelachvili, Nobuo Maeda, Kenneth J. Rosenberg and Mustafa Akbulut. *J. Mater. Res.* **20** (2005) No. 8, 1952-1972.

## 2006

297. **Adhesion and Friction of Polystyrene Surfaces around  $T_g$**  Hongbo Zeng, Nobuo Maeda, Nianhuan Chen, Matthew Tirrell, and Jacob Israelachvili. *Macromolecules* **39** (2006) 2350-2363.
298. **Comment on “Superlubricity: A paradox about confined fluids resolved.”** Delphine Gourdon and Jacob Israelachvili. *Physical Review Letters* **96** (2006) Art. No. 099601.
299. **Comment on Reassessment of Solidification in Fluids Confined Between Mica Sheets.** Jacob Israelachvili, Nobuo Maeda, and Mustafa Akbulut. *Langmuir* **22** (2006) 2397-2398.
300. **The Hydrophobic Effect: Why Do Raindrops Slide off Leaves?** Dhaval A. Doshi, Erik B. Watkins, Jacob N. Israelachvili, and Jaroslaw Majewski. *Los Alamos Science* **30** (2006) 164-171.

301. **Confined Fluids and their role in pressure solution.** Alessandro Anzalone, James Boles, George Greene, Kevin Young, Jacob Israelachvili, Norma Alcantar. *Chemical Geology* **230** (2006) 220-231.
302. **Thermodynamic Equilibrium of domains in a two-component Langmuir Monolayer.** Yufang Hu, Kieche Meleson, Jacob Israelachvili. *Biophysical Journal* **91** (2006) 444-453, correction (2008) **94**, 714-714..
303. **Friction and tribochemical reactions occurring at shearing interfaces of nano-thin silver films on various substrates.** Mustafa Akbulut, Anna R. Godfrey Alig, and Jacob Israelachvili. *Journal of Chemical Physics* **124** (2006): Art. No. 174703.
304. **Differences between non-specific and bio-specific, and between equilibrium and non-equilibrium, interactions in biological systems.** Jacob Israelachvili. *Quarterly Reviews of Biophysics* **38** (2006) 331-337.
305. **The Deformation and Adhesion of Randomly Rough and Patterned Surfaces.** Marcel Benz, Kenneth J. Rosenberg, Edward J. Kramer, Jacob N. Israelachvili. *J. Phys. Chem. B* **110** (2006) 11884-11893.
306. **Experimental Investigation of the Dissolution of Quartz by a Muscovite Mica Surface: Implications for Pressure Solution.** Emily E. Meyer, George W. Greene, Norma A. Alcantar, Jacob N. Israelachvili, James R. Boles. *Journal of Geophysical Research* **111** (2006) Art. No. B08202.
307. **Limit cycles in dynamic adhesion and friction processes: a discussion.** Hongbo Zeng, Matthew Tirrell, Jacob Israelachvili. *Journal of Adhesion* **82** (2006) 933-943.
308. **Forces between Surfactant-Coated ZnS Nanoparticles in Dodecane: Effect of Water.** Anna R. Godfrey Alig, Mustafa Akbulut, Yuval Golan, and Jacob Israelachvili. *Adv. Functional Materials* **18** (2006) 2127-2134.
309. **Frictional Properties of Confined Nanorods.** Mustafa Akbulut, Nataly Belman, Yuval Golan, and Jacob Israelachvili. *Advanced Materials* **18** (2006) 2589-2592.
310. **Surface forces and nanorheology of molecularly thin films.** Marina Ruths, Jacob N. Israelachvili, In *Handbook of Nanotechnology*, Chapter 30, B. Bhushan, Ed., Springer-Verlag. (2006) 859-924.
311. **Recent progress in understanding hydrophobic interactions.** Emily Meyer, Kenny Rosenberg, Jacob Israelachvili. *PNAS* **103** (2006) 15739-15746.
312. **Peel Zone Model of Tape Peeling based on the Gecko adhesive system.** Noshir S. Pesika, Yu Tian, Boxin Zhao, Kenny Rosenberg, Hongbo Zeng, Patricia McGuigan, Kellar Autumn, Jacob N. Israelachvili. *Journal of Adhesion* **83** (2007) 383-401.
313. **Adhesion and friction in gecko toe attachment and detachment.** Yu Tian, Noshir S. Pesika, Hongbo Zeng, Kenny Rosenberg, Boxin Zhao, Patricia McGuigan, Kellar Autumn, Jacob N. Israelachvili. *PNAS* **103** (2006) 19320-19325.
314. **Adhesion and detachment mechanisms of sugar surfaces from the solid (glassy) to liquid (viscous) states.** Boxin Zhao, Hongbo Zeng, Yu Tian, Jacob Israelachvili, *PNAS* **103** (2006) 19624-19629.

315. **Triboelectrification between smooth metal surfaces coated with self-assembled monolayers (SAMs).** Mustafa Akbulut, Anna R. Godfrey Alig, Jacob Israelachvili. *J. Phys. Chem. B* **110** (2007) 22271-22278.
316. **Properties of confined and sheared rhodamine B films studied by SFA-FECO spectroscopy.** Anna R. Godfrey Alig, Delphine Gourdon, Jacob Israelachvili. *J. Phys. Chem. B* **111** (2007) 95-106.
317. **Transient surface patterns during adhesion and coalescence of thin liquid films.** Hongbo Zeng, Boxin Zhao, Yu Tian, Matthew Tirrell, L. Gary Leal, Jacob Israelachvili. *Soft Matter* **3** (2007) 88-93.
318. **Role of nanometer roughness on the adhesion and friction of a rough polymer surface and a molecularly smooth mica surface.** Bruno Zappone, Kenny Rosenberg, Jacob Israelachvili. *Tribology Letters* **26** (2007) 191-201.
319. **Adsorption, Lubrication, and Wear of Lubricin on Model Surfaces: Polymer Brush-Like Behavior of a Glycoprotein.** Bruno Zappone, Marina Ruths, George W. Greene, Gregory D. Jay, Jacob Israelachvili. *Biophysical Journal* **92** (2007) 1693-1707.
320. **Transient filamentous network structure of a colloidal suspension excited by stepwise electric fields.** Yu Tian, Hongbo Zeng, Travers H. Anderson, Boxin Zhao, Patricia McGuiggan, Jacob Israelachvili. *Physical Review E* **75** (2007) Art. No. 011409.
321. **Friction studies of polymer lubricated surfaces.** Patricia McGuiggan, Michelle Gee, Hisae Yoshizawa, Susan Hirz, J. Israelachvili. *Macromolecules* **40** (2007) 2126-2133.
322. **Adhesion mechanisms of the mussel foot proteins mfp-1 and mfp-3.** Qi Lin, Delphine Gourdon, Chengjun Sun, Niels Holten-Andersen, Travers H. Anderson, J. Herbert Waite, Jacob N. Israelachvili. *PNAS*, **104** (2007) 3782-3786.
323. **Forces between Surfaces across Nanoparticle Solutions: Role of Size, Shape, and Concentration.** Mustafa Akbulut, Anna R. Godfrey Alig, Younjin Min, Nataly Belman, Magdalene Reynolds, Yuval Golan, Jacob Israelachvili. *Langmuir* **23** (2007) 3961-3969.
324. **Transient Interfacial Patterns and Instabilities Associated with Liquid Film Adhesion and Spreading.** Hongbo Zeng, Yu Tian, Matthew Tirrell, Jacob Israelachvili. *Langmuir* **23** (2007) 6126-6135.
325. **Properties of surfaces and films over large length and time scales.** Hongbo Zeng, Jacob N. Israelachvili, Matthew Tirrell. Extended abstract (non peer reviewed) for Department of Energy's (DOE's), Office of Basic Energy Sciences (OBES), Division of Materials Science and Engineering (DMS&E), Synthesis and Processing core research area contractor's meeting. July 2007.
326. **Synthesis, Two-Dimensional Assembly, and Surface Pressure-Induced Coalescence of Ultranarrow PbS Nanowires.** Israel Patla, Somobrata Acharya, Leila Zeiri, Jacob Israelachvili, Shlomo Efrima, Yuval Golan. *Nano Letters* **7** (2007) 1459 - 1462.
327. **Transient Surface Patterns and Instabilities at Adhesive Junctions of Viscoelastic Films.** Zeng, H.; Tian, Y.; Zhao, B.; Tirrell, M., Israelachvili, J., *Macromolecules* **40** (2007) (23); 8409-8422.
328. **Lateral reorganization of myelin lipid domains by myelin basic protein studied at the air-water interface.** Yufang Hu, Jacob Israelachvili, *Colloids and Surfaces B: Biointerfaces* **62** (2008) 22-30.

329. **New SFA techniques for studying surface forces and thin film patterns induced by electric fields.** Hongbo Zeng, Yu Tian, Travers H. Anderson, Matthew Tirrell, Jacob N. Israelachvili. *Langmuir* **24** (2008) (4); 1173-1182.
330. **Molecular aspects of the boundary lubrication by human Lubricin: effect of disulphide bonds and enzymatic digestion.** Bruno Zappone, George W. Greene, Emin Oroudjev, Gregory D. Jay, Jacob N. Israelachvili. *Langmuir* **24** (2008) (4); 1495-1508.
331. **Adhesion and friction force coupling of gecko setal arrays: implications for structured adhesive surfaces.** Boxin Zhao, Noshir Pesika, Kenny Rosenberg, Yu Tian, Hongbo Zeng, Patricia McGuigan, Kellar Autumn, Jacob Israelachvili. *Langmuir* **(2008) 24(4)**; 1517-1524.
332. **Adhesion and Stable Low Friction provided by a Subnanometer-thick Monolayer of a Natural Polysaccharide.** Delphine Gourdon, Qi Lin, Emin Oroudjev, Helen Hansma, Yuval Golan, Shoshana Arad, Jacob Israelachvili. *Langmuir* **(2008) 24(4)**; 1534-1540.
333. **3D Force and Displacement Sensor for SFA and AFM measurements.** Kai Kristiansen, Patricia McGuigan, Greg Carver, Carl Meinhart, Jacob Israelachvili, *Langmuir* **(2008); 24(4)**; 1541-1549.
334. **Normal and Shear Forces Generated during the Ordering (Directed Assembly) of Confined Straight and Curved Nanowires.** Younjin Min, Mustafa Akbulut, Nataly Belman, Yuval Golan, Joe Zasadzinski, Jacob Israelachvili. *Nanoletters* **(2008); 8(1)**; 246-252.
335. **Role of Electrochemical Reactions in Pressure Solution.** George W. Greene, Kai Kristiansen, Emily E. Meyer, James R. Boles, Jacob N. Israelachvili. *Geochimica et Cosmochimica Acta* **(2008) 72 (12)** A325-A325. See #348
336. **Role of interparticle and external forces in nanoparticle assembly.** Younjin Min, Mustafa Akbulut, Kai Kristiansen, Yuval Golan, Jacob Israelachvili. *Nature Materials* **(2008) 7** 527-538.
337. **Complementary dimerization of microtubule-associated tau protein: Implications for microtubule bundling and tau-mediated pathogenesis.** Kenneth J. Rosenberg, Jennifer L. Ross, H. Eric Feinstein, Stuart C. Feinstein, and Jacob Israelachvili. *PNAS* **105** (2008) (21) 7445-7450.
338. **Tuning of Solid Phase in Supra-crystals made of silver nanocrystals.** Henry, A.-I., Courty, A., Pilani, M.-P., Albouy, P.-A., Israelachvili, J., *Nano Letters* **8** (2008) 2000-2005.
339. **Hierarchical Assembly of Ultra-narrow Alkylamine-Coated ZnS Nanorods: A Synchrotron Surface X-Ray Diffraction Study,** Nataly Belman, Somobrata Acharya, Oleg Konovalov, Alexei Vorobiev, Jacob Israelachvili, Shlomo Efrima, Yuval Golan. *Nano Letters* **8** (11), (2008) 3858-3864. PMID: 18823147
340. **Changes in pore morphology and fluid transport in compressed articular cartilage and the implications for joint lubrication,** George W. Greene, Bruno Zappone, Boxin Zhao, Olle Soderman, Daniel Topgaard, Gabriel Rata, Jacob N. Israelachvili. *Biomaterials* **29** (2008) 4455-4462.
341. **Contact mechanics with adhesion: Interfacial separation and contact area,** C. Yang, B. N. J. Persson, J. Israelachvili, K. Rosenberg. *Europhysics Letters* **84** (2008) 46004 1-5.
342. **Normal and Shear Forces Generated during the Ordering (Directed Assembly) of Confined Straight and Curved Nanowires,** Younjin Min, Mustafa Akbulut, Nataly Belman, Yuval Golan, Joe Zasadzinski, J. Israelachvili. *Nano Letters* **8** (2008 ) 246-252.

343. **Frictional Properties of Surfactant-Coated Rod-Shaped Nanoparticles in Dry and Humid Dodecane.** Younjin Min, Mustafa Akbulut, Robert K. Prud'homme, Yuval Golan, and Jacob Israelachvili *J. Phys. Chem. B* **112** (46), (2008 ) 14395-14401.

344. **Role of Tilted Adhesion Fibrils (setae) in the Adhesion and Locomotion of Gecko-like Systems.** Boxin Zhao, Noshir Pesika, Hongbo Zeng, Zhensong Wei, Yunfei Chen, Kellar Autumn, Kimberly Turner, and Jacob Israelachvili. *J. Phys. Chem. B* **113** (12) (2009) 3615-3621. PMID: 19673126.
345. **Force Amplification Response of Actin Filaments Under Compression.** George W. Greene, Travers H. Anderson, Hongbo Zeng, Bruno Zappone, Jacob N. Israelachvili. *PNAS* **106** (2) (2009) 445-449. PMID: 19124767.
346. **Interaction forces and adhesion of supported myelin lipid bilayers modulated by myelin basic protein.** Younjin Min, Kai Kristiansen, Joan M. Boggs, Cynthia Husted, Joseph A. Zasadzinski, Jacob Israelachvili. *PNAS* (2009) **106**, 3154-3159. PMID: 19218452
347. **Formation of Supported Bilayers on Silica Substrates.** Travers H. Anderson, Younjin Min, Kim L. Weirich, Hongbo Zeng, Deborah Fygenson, and Jacob N. Israelachvili, *Langmuir* **25** (12) (2009)6997-7005. PMID: 19354208
348. **Role of electrochemical reactions in Pressure Solution.** George W. Greene, Kai Kristiansen, Emily E. Meyer, James R. Boles and Jacob N. Israelachvili, *Geochimica et Cosmochimica Acta* **73** (2009) 2862-2874.
349. **Friction at the liquid/liquid interface of two immiscible polymer films.** Hongbo Zeng, Yu Tian, Boxin Zhao, Matthew Tirrell, Jacob Israelachvili, *Langmuir* **25** (9) (2009) 4954-4964. PMID: 19397350.
350. **The “Crowding Model” as a tool to understand and fabricate gecko-inspired dry adhesives.** Noshir S. Pesika, Nick Gravish, Matt Wilkinson, Boxin Zhao, Hongbo Zeng, Yu Tian, Jacob Israelachvili, Kellar Autumn. *J. Adhesion* **85** (8) (2009) 512-525.
351. **Reaction of Alkylamine Surfactants with Carbon Dioxide: Relevance to Nanocrystal Synthesis.** Nataly Belman, Jacob N. Israelachvili, Youli Li, Cyrus R. Safinya, Joel Bernstein, and Yuval Golan, *Nano Lett.* (2009) **9** (5) 2088-2093. PMID: 19374385
352. **The Temperature-Dependent Structure of Alkylamines and their corresponding Alkylammonium-Alkylcarbamates.** Nataly Belman, Jacob N. Israelachvili, Youli Li, Cyrus R. Safinya, Joel Bernstein and Yuval Golan, *JACS* (2009) **131** (25) 9107-9113. PMID: 19462995
353. **Frictional-adhesion of Patterned Surfaces and Implications for Gecko and Biomimetic Systems.** Zeng, Hongbo; Pesika, Noshir; Tian, Yu; Zhao, Boxin; Chen, Yunfei; Tirrell, Matthew; Turner, Kimberly; Israelachvili, Jacob, *Langmuir* (2009) **25** (13) 7486-7495. PMID: 19522483.
354. **Measurement of Forces between Room Temperature ionic liquids between Mica Surfaces.** Min, Younjin; Akbulut, Mustafa; Sangoro, Joshua R.; Kremer, Friedrich; Prud'homme, Robert K.; Israelachvili, Jacob. *Journal of Physical Chemistry C* (2009) **113** (37) 16445-16449.
355. **Gecko adhesion pad: A smart surface?** Noshir S Pesika; Hongbo Zeng; Kai Kristiansen; Boxin Zhao; Yu Tian; Kellar Autumn and Jacob Israelachvili. *J. Phys.: Condens. Matter* (2009) **21** (46) 464132.

356. **Bilayer Edges Catalyze Supported Lipid Bilayer Formation.** Kimberly L. Weirich, Jacob N. Israelachvili, and D. Kuchnir Fygenson *Biophysical Journal* **98** (1) (2010) 85-92. PMID: 20085721.
357. **Liquid- to Solid-Like Failure Mechanism of Thin Polymer Films at Micro- and Nanoscales.** Hongbo Zeng, Boxin Zhao, Jacob N. Israelachvili, and Matthew Tirrell, *Macromolecules* **43** (2010) 538-542.
358. **Recent advances in the surface forces apparatus (SFA) technique.** J Israelachvili, Y Min, M Akbulut, A Alig, G Carver, W Greene, K Kristiansen, E Meyer, N Pesika, K Rosenberg and H Zeng, *Reports on Progress in Physics* **73** (2010) 1-16.
359. **The search for the hydrophobic force law.** Malte U. Hammer, Travers H. Anderson, Aviel Chaimovich, M. Scott Shell, Jacob Israelachvili. *Journal of Faraday Transactions* (2010) **146**, 299-308, discussion 367-93, 395-401. PMID: 21043428.
360. **Strong Reversible Fe<sup>3+</sup>-mediated Bridging between Dopa-Containing Protein Films in Water.** Hongbo Zeng, Dong Soo Hwang, Jacob N. Israelachvili, and J. Herbert Waite, *PNAS* (2010) **107** (29) 12850-12853. PMID: 20615994.
361. **The contribution of DOPA to substrate-peptide adhesion and internal cohesion of mussel-inspired synthetic peptide films** Travers H. Anderson, Jing Yu, Abril Estrada, Malte U. Hammer, J. Herbert Waite, Jacob N. Israelachvili. *Adv. Func. Matls.* **20** (23) (2010) 4196-4205. PMID: 21603098.
362. **Studies of Bilayers and Vesicle Adsorption to Solid Substrates: Development of A Miniature Streaming Potential Apparatus (SPA).** Younjin Min, Noshir Pesika, Joe Zasadzinski, and Jacob Israelachvili. *Langmuir* 2010, **26** (11), pp 8684–8689. PMID: 20180570.
363. **Direct measurement of double-layer, van der Waals and polymer depletion attraction forces between supported cationic bilayers** Anderson, Travers; Donaldson, Stephen; Zeng, Hongbo; Israelachvili, Jacob. *Langmuir* 2010, **26** (18), pp 14458-14465. PMID: 20735021.
364. **Anisotropic dynamic changes in the pore network structure, fluid diffusion and fluid flow in articular cartilage under compression.** George W. Greene, Bruno Zappone, Boxin Zhao, Olle Söderman, Daniel Topgaard, Gabriel Rata, Hongbo Zeng, and Jacob N. Israelachvili. *Biomaterials* (2010) **31** (12) 3117-3128. PMID: 20144846.
365. **Protein- and metal-dependent interactions of a prominent protein in mussel adhesive plaques.** Dong Soo Hwang, Hongbo Zeng, Admir Masic, Matthew J. Harrington, Jacob N. Israelachvili and J. Herbert Waite. *J. Biological Chem.* (2010) **285** (33) 25850. PMID: 20566644.
366. **Surface Forces and Nanorheology of Molecularly Thin Films.** Marina Ruths and Jacob N. Israelachvili, in *Handbook of Nanotechnology*, 3<sup>rd</sup> edition, Chapter 29, B. Bhushan, Ed., Springer-Verlag. (2010) 857-922.
367. **Viscosity and interfacial properties in a mussel-inspired adhesive coacervate.** Dong Soo Hwang, Hongbo Zeng, Aasheesh Srivastava, Daniel V. Krogstad, Matthew Tirrell, Jacob N. Israelachvilia and J. Herbert Waite *Soft Matter* (2010) **6**, 3232-3236. PMID: 21544267.
368. **Adhesive Interactions between Vesicles in the Strong Adhesion Limit.** Arun Ramachandran, Travers H. Anderson L. Gary Leal, and Jacob N. Israelachvili *Langmuir* **27** (2011) 59-73. PMID: 21128653.

369. **Reversible shear thickening at low shear rates of electrorheological fluids under electric fields.** Yu Tian, Minliang Zhang, Jile Jiang, Noshir Pesika, Hongbo Zeng, Jacob Israelachvili, Yonggang Meng, Shizhu Wen *Physical Review E*(2011) **83** 011401. PMID 21405692.
370. **Hierarchical Superstructure of Alkylamine-Coated ZnS Nanoparticle Assemblies.** Nataly Belman, Jacob N. Israelachvili, Youli Li, Cyrus R. Safinya Vladimir Ezersky, Alexander Rabkin, Olga Sima and Yuval Golan. *Phys. Chem. Chem. Phys.*, 2011, **13**, 4974–4979. PMID 21321713.
371. **Effect of surface roughness and electrostatic surface potentials on forces between dissimilar surfaces in aqueous solution.** Markus Valtiner, Kai Kristiansen, George W. Greene, and Jacob N. Israelachvili. *Adv. Matls.* (2011) **23** (20) 2294–2299. PMID: 21608041.
372. **Mussel-Inspired Adhesives and Coatings.** B.P. Lee, P.B. Messersmith, J.N. Israelachvili, and J.H. Waite. *Annu. Rev. Mater. Res.* **41** (2011) 99-132.
373. **High-Speed Friction Measurements Using a Modified Surface Forces Apparatus.** D. D. Lowrey, K. Tasaka, J. H. Kindt X. Banquy, N. Belman, Y. Min, N. S. Pesika, G. Mordukhovich, J. N. Israelachvili. *Tribol Lett* (2011) 42:117–127.
374. **Adaptive mechanically controlled lubrication mechanism found in articular joints.** George W. Greene, Xavier Banquy, Dong Woog Lee, Daniel D. Lowrey, Jing Yu, and Jacob N. Israelachvili. *PNAS* (2011) **108** (13) 5255–5259. PMID 21383143.
375. **Effects of interfacial redox in mussel adhesive protein films on mica** Jing Yu, Wei Wei, Eric Danner, Jacob Israelachvili, and J. Herbert Waite *Adv Mat.*(2011) **23** (20) 2362–2366. PMID 21520458.
376. **Mussel protein adhesion depends on interprotein thiol-mediated redox modulation.** Jing Yu , Wei Wei , Eric Danner , Rebekah Ashley , Jacob Israelachvili, J. Herbert Waite *Nature Chem. Bio.*(2011) **7** 588-590. PMID 21804534.
377. **Origins of Saccharide-Dependent Hydration at Aluminate, Silicate, and Aluminosilicate Surfaces.** Benjamin J. Smith, Aditya Rawal, Gary P. Funkhouser, Lawrence Roberts, Vijay Gupta, Jacob Israelachvili, Bradley F. Chmelka. *PNAS* **108** (2011) (22) 8949–8954. PMID: 21562207.
378. **Critical and Off-Critical Mixing-Demixing Transitions in Model Extracellular and Cytoplasmic Myelin Lipid Monolayers.** Y. Min, T. F. Alig, J. M. Boggs, Dong Woog Lee, J. N. Israelachvili and J. A. Zasadzinski. *Biophys. J.* **100** (2011) 1490-1498. PMID 21402031.
379. **Measurement and characterization of ‘resonance friction’ at high sliding speeds in a model automotive wet clutch.** Xavier Banquy, Daniel D. Lowrey, Nataly Belman, Younjin Min, Gregory Mordukhovich, Jacob N. Israelachvili *Tribology Letters* (2011) **43** (2) 185-195.
380. **Gecko-inspired dry adhesive for robotic applications.** Jing Yu, Sathya Chary, Saurabh Das, John Tamelier, Noshir S. Pesika, Kimberly Turner and Jacob Israelachvili. *Adv. Func. Matls.* (2011) **21** 3010–3018.
381. **Relating Domain Size Distribution to Line Tension and Molecular Dipole Density in Model Cytoplasmic Myelin Lipid Monolayers** Dong Woog Lee, Younjin Min, Prajnaparamita Dhar, Arun Ramachandran, Jacob N. Israelachvili, and Joseph A. Zasadzinski *PNAS* (2011) **108** (23) 9425-9430. PMID: 21606329.
382. **Surface-Induced Patterns from Evaporating Droplets of Aqueous Carbon Nanotube Dispersions.** Hongbo Zeng, Kai Kristiansen, Peng Wang, Joakim Bergli, and Jacob Israelachvili *Langmuir* (2011) **27** (11) 7163–7167. PMID: 21553914.

383. **Gecko-Inspired Dry Adhesive for Robotic Applications.** John Tamelier, Sathya Chary, and Kimberly Turner, Jing Yu, Saurabh Das, and Jacob Israelachvili. Online publication from the 27<sup>th</sup> Army Science Conference on Transformational Science and Technology – Enabling Full Spectrum Operations. Parallel Technical Session G. Advanced Materials and Manufacturing Technology, Paper #GO-002. <http://www.armyscienceconference.com/manuscripts/G/GO-002.pdf>
384. **Surface Forces and Nanorheology of Molecularly Thin Films.** Marina Ruths and Jacob N. Israelachvili (2011) In Nanotribology and Nanomechanics II, Part 1, Pages 107-202.
385. **Imaging the microscopic structure of shear thinning and thickening colloidal suspensions.** Xiang Cheng, Jonathan H. McCoy, Jacob N. Israelachvili and Itai Cohen. *Science* (2011) **333** (6047) 1276-1279. PMID: 21885778.
386. **Reply to McCutchen: Clarification of hydrodynamic and boundary lubrication mechanisms in joints.** George W. Greene, Xavier Banquy, Dong Woog Lee, Daniel D. Lowrey, Jing Yu and Jacob N. Israelachvili *PNAS* (2011) **108** (33) E462.
387. **General hydrophobic interaction potential for surfactant/lipid bilayers from direct force measurements between light-modulated bilayers.** Stephen H. Donaldson, Jr., C. Ted Lee, Jr., Bradley F. Chmelka, and Jacob N. Israelachvili *PNAS* (2011) **108** (38) 15699-15704. PMID: 21896718.
388. **Pressure solution – the importance of the electrochemical surface potentials.** Kai Kristiansen, Markus Valtiner, George W. Greene, James R. Boles, and Jacob N. Israelachvili *Geochimica et Geophysica Acta* **75** (2011) 6882–6892.
389. **Microtribology of Aqueous Carbon Nanotube Dispersions,** Kai Kristiansen, Hongbo Zeng, Peng Wang, Jacob N. Israelachvili *Adv. Functional Materials* **21** (2011) (23) 4555-4564.

390. **Adhesion and hemifusion of cytoplasmic myelin lipid membranes are highly dependent on the lipid composition.** Xavier Banquy, Kai Kristiansen, Dong Woog Lee, and Jacob Israelachvili. *Biochimica et Biophysica Acta* **1818** (2012) 402-410.
391. **Lipid-Protein Interactions Alter Line Tensions and Domain Size Distributions in Lung Surfactant Monolayers.** Prajnaparamita Dhara, Elizabeth Eck, Jacob N. Israelachvili, Dong Woog lee, Younjin Min, Arun Ramachandran, Alan J. Waring and Joseph A. Zasadzinski. *Biophysical Journal* **102** (2012) (1) 56-65. PMID: 22176530.
392. **Hydrophobic forces, electrostatic steering and acid-base bridging between atomically smooth self-assembled monolayers and end-functionalized PEGolated lipid bilayers.** Markus Valtiner, Stephen H. Donaldson Jr., Matthew Gebbie and Jacob N. Israelachvili. *J. Am. Chem. Soc.* (2012) **134** 1746–1753.
393. **The boundary lubrication of chemically grafted and crosslinked hyaluronic acid in PBS and lipid solutions.** Yu, Jing; Banquy, Xavier; Greene, George; Lowrey, Daniel; Israelachvili, Jacob. *Langmuir* (2012) **28** 2244–2250. PMID: 22148857.
394. **Adhesion Mechanism of a DOPA-deficient byssal protein from green mussels.** Dong Soo Hwang, Hongbo Zeng, Qingye Lu, Jacob Israelachvili, J. Herbert Waite. *Soft Matter* **8** (2012) 5640-5648. PMID: 23105946.
395. **Millimeter Size Patch Behavior of Gecko-Inspired Reversible Adhesive.** Tamelier, J.; Chary, S.; Turner, K. L.; Yu, J.; Das, S.; Israelachvili, J. N. *IEEE Sensors Journal* (2011) 1819–1822.
396. **Measurements of anisotropic (off-axis) friction-induced motion** Kai Kristiansen, Xavier Banquy, Hongbo Zeng, Eric Charrault, Suzanne Giasson, and Jacob Israelachvili. *Adv. Matls.* (2012) **24** (38) 5236-5241 PMID: 22815190.
397. **Friction and adhesion of gecko-inspired PDMS flaps on rough surfaces.** Jing Yu, Sathya Chary, Saurabh Das, John Tamelier, Kimberly Turner and Jacob Israelachvili. *Langmuir* (2012) **28** (31), 11527–11534. PMID: 22779923.
398. **The electrochemical surface forces apparatus: The effect of surface roughness, electrostatic surface potentials and anodic oxide growth on interactions forces and friction between dissimilar surfaces in aqueous solutions.** Valtiner, Markus; Banquy, Xavier; Kristiansen, Kai; Greene, George; Israelachvili, Jacob. *Langmuir* (2012) **28** (36) 13080–13093. PMID: 22877582.
399. **Adhesion of Mussel Foot Protein Mefp-5 to Mica: An Underwater Superglue.** Eric W. Danner, Yajing Kan, Malte U. Hammer, Jacob N. Israelachvili, J. Herbert Waite *Biochemistry* (2012) **51**, 6511–6518. PMID: 22873939.
400. **Hyaluronic acid - collagen network interactions during the dynamic compression and recovery of cartilage.** Greene, George Wren; Zappone, Bruno; Banquy, Xavier; Lee, Dongwoog; Soderman, Olle; Topgaard, Daniel; Israelachvili, J N. *Soft Matter* (2012) **8** (38), 9906 - 9914.
401. **Peeling of a tape with large deformations and frictional sliding.** Matthew R Begley; Rachel R Collino; Jacob N Israelachvili; Robert M McMeeking. *Journal of the Mechanics and Physics of Solids* (2013) **61** (5) 1265-1279.
402. **Origin of the Contact Angle Hysteresis of water on Chemisorbed and Physisorbed Self-Assembled Monolayers.** Nataly Belman, Kejia Jin, Yuval Golan and Jacob N. Israelachvili and Noshir S. Pesika. *Langmuir* (2012) **28** (41), 14609–14617. PMID: 22978680.
403. **Directed Co-Assembly of Oriented PbS Nanoparticles and Monocrystalline Sheets of Alkylamine Surfactant.** Rabkin, Alexander; Belman, Nataly; Israelachvili, Jacob; Golan, Yuval. *Langmuir* (2012) **28** (43), 15119–15123. PMID: 23057722.

404. **Hydrophobic Interactions Modulate Self-assembly of Nanoparticles.** Ana Sanchez-Iglesias, Marek Grzelczak, Thomas Altantzis, Bart Goris, Jorge Perez-Juste, Sara Bals, Stephen H. Donaldson, Bradley F. Chmelka, Jacob N. Israelachvili, and Luis M. Liz-Marzán. *ACS Nano* (2012) **6** (12) 11059-11065. PMID: 23186074.
405. **Hydrophobic enhancement of Dopa mediated adhesion in a mussel foot protein.** Wei Wei, Jing Yu, Christopher Broomell, Jacob N. Israelachvili, and J. Herbert Waite. *JACS* (2012) **135** 377-383. PMID: 23214725.

406. **Adhesion of mussel foot proteins to different substrate surfaces.** Qingye Lu, Eric Danner, J. Herbert Waite, Jacob N. Israelachvili, Hongbo Zeng and Dong Soo Hwang. *Journal of the Royal Society Interface* (2013) **10**, 20120759. PMID: 23173195.
407. **Dynamics of force generation by confined actin filaments.** Xavier Banquy, G. Wren Greene, Bruno Zappone, Anatoly Kolomeisky and Jacob N. Israelachvili, *Soft Matter* (2013) **9** 2389-2392.
408. **A Bottom-up Approach Towards Fabrication of Ultrathin PbS Sheets.** Somobrata Acharya, Bidisa Das, Umamahesh Thupakula, Katsuhiko Ariga, D. D. Sarma, Jacob Israelachvili and Yuval Golan. *NanoLetters* (2013) **13** (2) 409–415. PMID: 23297701.
409. **Stick-slip friction and wear of articular joints.** D. W. Lee, X. Banquy, J.N. Israelachvili. *PNAS* (2013) **110** (7) E567-E574. PMID: 23359687.
410. **Lubrication and Wear Protection of Natural (Bio)Systems.** George W. Greene, Dong Woog Lee, Jing Yu, Saurabh Das, Xavier Banquy, and Jacob N. Israelachvili. In *Polymer Adhesion, Friction, and Lubrication*, Ch. 3: Lubrication and wear protection of natural biosystems, H. Zeng Ed., Wiley (83-133).
411. **Interactions and visualization of bio-mimetic membrane detachment at smooth and nano-rough gold electrode surfaces.** Stephen H. Donaldson Jr., Markus Valtiner, Matthew A. Gebbie, Jaye Harada, Jacob N. Israelachvili. *Soft Matter* (2013) **9** 5231-5238.
412. **The adhesion of mussel foot protein-3 to TiO<sub>2</sub> surfaces.** Waite, J.H.; Yu, Jing; Wei, Wei; Menyo, Matthew, Israelachvili, J.N. *Biomacromolecules* (2013) **14** (4) 1072–1077.
413. **Synergistic interactions between grafted Hyaluronic acid and Lubricin provide enhanced wear protection and lubrication.** Saurabh Das, Xavier Banquy, Bruno Zappone, George W. Greene, Gregory D. Jay and Jacob N. Israelachvili. *Biomacromolecules* (2013) **14** (5), 1669–1677.
414. **Investigation on the molecular shear-induced organization in a molecularly thin film of n-hexadecane.** E. Charrault, X. Banquy, K. Kristiansen, J. Israelachvili, S. Giasson. *Tribology Letters* (2013) **50** 421–430.
415. **Ionic liquids behave as dissociable polar liquids.** Matthew A. Gebbie, Markus Valtiner, Xavier Banquy, Eric Fox, Wesley A. Henderson and Jacob N. Israelachvili. *PNAS* (2013) **110** (24) 9674-9679.
416. **A brief history of intermolecular and surface forces in complex fluid systems –** Marina Ruths, Jacob Israelachvili, *Langmuir* (2013) **29** (31) 9605–9619.
417. **Recent Advances in Gecko Adhesion and Friction Mechanisms and development of Gecko-Inspired Dry Adhesive Surfaces.** Ming Zhou, Noshir Pesika, Hongbo Zeng, Yu Tian, Jacob Israelachvili. *Friction* (2013) **1**(2): 114-129.
418. **Entropic forces between fluid layers.** Hakan Wennerstrom, Ulf Olsson, Jacob Israelachvili. *PNAS*. **110** (32) E2944.
419. **Simulation of edge facilitated adsorption and critical concentration induced rupture of vesicles at a surface.** Pat Plunkett, Brian A. Camley, Kimberly L. Weirich, Jacob Israelachvili, Paul J. Atzberger. *Soft Matter* (2013) **9**, 8420-8427.
420. **Interaction of adsorbed polymers with supported cationic bilayers.** Saurabh Das, Stephen H. Donaldson Jr, Yair Kaufman and Jacob N. Israelachvili. *RSC Advances* (2013), 3(43): 20405–20411.

- 421 **Adaptive Hydrophobic and Hydrophilic Interactions of Mussel Foot Proteins with Organic Thin Films.** Jing Yu, Yajing Kan, Michael Rapp, Eric Danner, Wei Wei, Saurabh Das, Dusty R. Miller, Yunfei Chen, J. Herbert Waite, and Jacob N. Israelachvili. *PNAS* (2013) **110** (39) 15680-15685.
422. **Antioxidant efficacy and adhesion rescue by a recombinant mussel foot protein-6.** S. C. T. Nicklisch, Saurabh Das, N. R. Martinez Rodriguez, J. N. Israelachvili, J. H. Waite. *Biotechnology Progress* (2013) **29** (6) 1587-1593.
423. **Biomimetic Bidirectional Switchable Adhesive Inspired by the Gecko.** Kejia Jin, Joseph C. Cremaldi, Jeffrey S. Erickson, Yu Tian, Jacob N. Israelachvili, Noshir S. Pesika. *Advanced Functional Materials* (2014) **24** (5) 574-579.
424. **A Mussel-Derived One-Component Adhesive Coacervate.** Wei Wei, Yerpeng Tan; Nadine M Rodriguez; Jing Yu; J. Herbert Waite; Jacob N Israelachvili. *Acta Biomaterialia* (2014) **10**, 1663–1670.
425. **The Intersection of Interfacial Forces and Electrochemical Reactions.** Jacob N. Israelachvili, Kai Kristiansen, Matthew A. Gebbie, Dong Woog Lee, Stephen H. Donaldson Jr., Saurabh Das, Michael V. Rapp, Xavier Banquy, Markus Valtiner, Jing Yu. *JPCB* (2013) **177** (51) 16369–16387. PMID: 24229092.
426. **Asymmetric electrostatic and hydrophobic-hydrophilic interaction forces between mica surfaces and silicone polymer thin films.** Donaldson, Stephen; Das, Saurabh; Gebbie, Matthew; Rapp, Michael; Jones, Louis; Roiter, Yuri; Koenig, Peter; Gizaw, Yonas; Israelachvili, Jacob. *ACS Nano*. (2013) **7** 11, 10094-10104.
427. **Strong adhesion and cohesion of chitosan in aqueous solutions.** Lee, Dong Woog; Lim, Chanoong; Israelachvili, Jacob; Hwang, Dong Soo. *Langmuir* (2013) **29** (46) 14222–14229.
428. **JKR theory for the stick-slip peeling and adhesion hysteresis of gecko mimetic patterned surfaces with a smooth glass surface.** Das, Saurabh; Chary, Sathya; Yu, Jing; Tamelier, John; Turner, Kimberly; Israelachvili, Jacob. *Langmuir* (2013) **29** 48, 15006-15012. PMID: 24191677.
429. **Adhesion and Surface Interactions of a Self-healing Polymer with Multiple Hydrogen-bonding Groups.** Ali Faghahnejad, Kathleen E. Feldman, Jing Yu, Matthew V. Tirrell, Jacob Israelachvili, Craig J. Hawker, Edward J. Kramer, Hongbo Zeng. *Adv. Func. Materials.* (2014) **24** (16) 2322-2333.
430. **Shear induced aggregation of mammalian synovial fluid components under boundary lubrication conditions.** Xavier Banquy, Dong-Woog Lee, Saurabh Das, Jack Hogan, Jacob Israelachvili. *Adv. Funct. Mats.* (2014) In press.
431. **Reply to Perkin et al.: Experimental observations demonstrate that ionic liquids form both bound (Stern) and diffuse electric double layers.** Matthew A. Gebbie, Markus Valtiner, Xavier Banquy, Wesley A. Henderson, and Jacob N. Israelachvili. *PNAS* (2013) **110** 44, E4122. PMID: 24344410.

432. **Characterization of biomolecular interactions with the Surface Forces Apparatus.** Chapter 37. Marina Ruths, Carlos Drummond, Jacob Israelachvili. In *Handbook on Imaging in Biological Mechanics* (2014). Neu C., Genin G. CRC Press and Taylor & Francis. In press.
433. **Electrochemical control of specific adhesion between amine-functionalized polymers and noble metal electrode interfaces.** S.H Donaldson Jr., M.A. Gebbie, S. Raman, B.R. Shrestha, T. Utzig, J.N. Israelachvili and M. Valtiner. *Materials and Corrosion* (2014) **65** (4) 362–369.
434. **Effects of molecular weight of grafted hyaluronic acid on wear initiation.** Dong Woog Lee; Xavier Banquy; Saurabh Das; Nicholas Cadirov; Gregory Jay; Jacob Israelachvili. *Acta Biomaterialia* (2014) **10** (5) 1817–1823.
435. **Lipid domains control myelin basic protein adsorption and membrane interactions between model myelin lipid bilayers** Dong Woog Lee, Xavier Banquy, Kai Kristiansen, Yair Kaufman, Joan M. Boggs, and Jacob N. Israelachvili. *PNAS* (2014) **111** (8) E768-E775.
436. **A multi-axis confocal rheoscope for studying shear flow of structured fluids.** Neil Lin, Jonathan McCoy, Xiang Cheng, Brian Leahy, Jacob Israelachvili, Itai Cohen. *Rev. Sci. Instrum.*, (2014) **85** 033905. PMID 24689598.
437. **Bio-inspired bottle-brush polymer exhibits low friction and Amontons-like behavior.** Xavier Banquy, Joanna Burdyńska, Dong Woog Lee, Krzysztof Matyjaszewski and Jacob Israelachvili. *JACS* (2014) **136** (17), 6199-6202. PMID: 24716507.
438. **Surface-initiated self-healing of polymers in aqueous media.** B. Kollbe Ahn, Dong Woog Lee, Jacob N. Israelachvili and J. Herbert Waite. *Nature Materials* (2014 in press).
439. **Developing a general interaction potential for hydrophobic and hydrophilic interactions.** Donaldson, Stephen; Røyne, Anja; Kristiansen, Kai; Rapp, Michael; Das, Saurabh; Gebbie, Matthew; Lee, Dong Woog; Stock, Philipp; Valtiner, Markus; Israelachvili, Jacob. *Langmuir* (2014 in press).
- 
- 
- 
- 
- 
-