Gijsje Koenderink – Full list of publications

Output summary
96 articles in peer-reviewed international journals, with >3000 citations and an *h*-index of 34 (ISI Web of Science); 9 book chapters; 4 popular publications

Publications in peer-reviewed journals

Preprints (manuscripts under review)

- V. Wollrab, J.M. Belmonte, M. Leptin, F. Nedelec, G.H. Koenderink, *Polarity sorting drives remodeling of actin-myosin networks*, biorxiv https://doi.org/10.1101/314484
- T. Xu, C. Langouras, M.A. Koudehi, B.E. Vos, N. Wang, G.H. Koenderink, X. Huang, D. Vavylonis, *Automated tracking of biopolymer growth and network deformation with TSOAX*, biorxiv https://doi.org/10.1101/316489
- Y. Mulla, G.H. Koenderink, *Crosslinker mobility weakens transient polymer networks*, arXiv:1802.04017

In press

- M. Dogterom, G.H. Koenderink, *Actin–microtubule crosstalk in cell biology*, Nature Reviews Molecular Cell Biology, in press (2018)
- C. Lopez, O. Saldanha, A. Aufderhorst-Roberts, C. Martinez-Torres, M. Kuijs, G.H. Koenderink, S. Köster, K. Huber, *Effect of ionic strength on the structure and elongational kinetics of vimentin filaments*, Soft Matter, in press (2018)

Published

1. S. Mohan, G.H. Koenderink, K.P. Velikov, *Inelastic behaviour of cellulose microfibril networks*, Soft Matter, 14 (33): 6828-6834 (2018)
2. K.A. Jansen, A. J. Licup, A. Sharma, R. Rens, M. Sheinman, F.C. MacKintosh, G.H. Koenderink, *The role of network architecture in collagen mechanics*, Biophysical Journal, 114 (11): 2665–2678 (2018)
3. Y. Mulla, G. Oliveri, J.T.B. Overvelde, G.H. Koenderink, *Crack initiation in viscoelastic materials*, Physical Review Letters, 120 (26): 268002 (2018)
4. C.C.L. Schuurmans, A. Abbadessa, M.A. Bengtson, G. Pletikapic, H.B. Eral, G.H. Koenderink, R. Masereeuw, W.E. Hennink, T. Vermonden, *Complex coacervation-based loading and tunable release of a cationic protein from monodisperse glycosaminoglycan microgels*, Soft Matter 14 (30): 6327-6341 (2018)
5. B. Dutta, B. Vos, Y. Rezus, G.H. Koenderink, H. Bakker, *Observation of ultrafast vibrational energy transfer in fibrinogen and fibrin fibers*, Journal of Physical Chemistry B, 122 (22): 5870−5876 (2018)
6. Y. Mulla, A. Aufderhorst-Roberts, G.H. Koenderink, *Shaping up synthetic cells*, Physical Biology, 15 (4): 041001 (2018)
7. M. Vahabi, B.E. Vos, H.C.G. de Cagny, D. Bonn, G.H. Koenderink, F. C. MacKintosh, *Normal stresses in semiflexible polymer hydrogels*, Physical Review E, 97 (3-1): 032418 (Editor's suggestion) (2018)
8. G.H. Koenderink, E.K. Paluch, *Architecture shapes contractility in actomyosin networks*, Curr. Opin. Cell Biol. 50, 79-85 (2018)
9. B.E. Vos, L.C. Liebrand, M. Vahabi, A. Biebricher, G.J.L. Wuite, E.J.G. Peterman, N.A. Kurniawan, F.C. MacKintosh, G.H. Koenderink, *Programming the mechanics of cohesive fiber networks by compression*, Soft Matter, 13 (47), 8886-8893 (*Cover article) (2017)
10. J. Alvarado, M. Sheinman, A. Sharma, F.C. MacKintosh, G.H. Koenderink, *Force percolation of contractile active gels*, Soft Matter, 13(24): 5624-5644 (2017)

11. L. Langguth, A. Szuba, S. Mann, E. Garnett, G.H. Koenderink, A.F. Koenderink, *Nano-antenna enhanced two-focus fluorescence correlation spectroscopy*, Sci. Rep., 7(1): 5985 (2017)
12. N.A. Kurniawan, T.H.S. van Kempen, S. Sonneveld, T.T. Rosalina, B.E. Vos, K.A. Jansen, G.W.M. Peters, F.N. van de Vosse, G.H. Koenderink, *Buffers Strongly Modulate Fibrin Self-Assembly into Fibrous Networks*, Langmuir, 33 (25): 6342-6352 (2017)
13. I.K. Piechocka, N.A. Kurniawan, J. Grimbergen, J. Koopman, G.H. Koenderink, *Recombinant fibrinogen reveals the different roles of alpha- and gamma-chain cross-linking and molecular heterogeneity in fibrin clot strain-stiffening*, J. Thrombosis and Hemostasis, 15(5):938-949 (2017)
14. K.A. Leonidakis, P. Bhattacharya, J. Patterson, B.E. Vos, G.H. Koenderink, J. Vermant, D. Lambrechts, M. Roeffaers, H. van Oosterwyck, *Fibrin structural and diffusional analysis suggests that fibers are permeable to solute transport*, Acta Biomaterialia, 47: 25-39 (2017)
15. H.C.G. de Cagny, B.E. Vos, M. Vahabi, N.A. Kurniawan, M. Doi, G.H. Koenderink, F.C. MacKintosh, D. Bonn, *Porosity governs normal stresses in polymer gels*, Physical Review Letters, 117 (21): 217802 (highlighted on physics.aps (18 nov 2016) "Focus: Why some gels shrink under stress") (2016)
16. A. Sharma, A.J. Licup, R. Rens, M. Vahabi, K.A. Jansen, G.H. Koenderink, F.C. MacKintosh, *Strain-driven criticality underlies nonlinear mechanics of fibrous networks*, Physical Review E, 94 (4-1): 042407 (2016)
17. N.A Kurniawan, B.E. Vos, A. Biebricher, G.J.L. Wuite, E.J.G. Peterman, G.H. Koenderink, *Fibrin networks support recurring mechanical loads by adapting their structure across multiple scales*, Biophysical Journal, 111 (5):1026-34 (highlighted as New and Notable in Biophysical Journal: K. Kroy, *The inelastic hierarchy: multiscale biomechanics of weak bonds*, Biophys. J. 111 (2016) 898-899) (2016)
18. C.C. vandenAkker, M. Schleeger, A.L. Bruinen, T. Deckert-Gaudig, K.P. Velikov, R.M.A. Heeren, V. Deckert, M. Bonn, G.H. Koenderink, *Multimodal spectroscopy study of amyloid fibril polymorphism*, J. Phys. Chem. B, 120 (34): 8809-8817 (2016)
19. I.C. Garlea, P. Mulder, J. Alvarado, O. Dammone, D.G. Aarts, M.P. Lettinga, G.H. Koenderink, B.M. Mulder, *Finite particle size drives defect-mediated domain structures in strongly confined colloidal liquid crystals*, Nature Commun, **7**:12112 (Erratum: Nat Commun. 2016, 7:12495) (2016)
20. H. van Hoorn, N.A. Kurniawan, G.H. Koenderink, D. Iannuzzi, *Local dynamic mechanical analysis for heterogeneous soft matter using ferrule-top indentation*, Soft Matter **12** (12): 3066-3073 (2016)
21. S.M.C. Bruekers, M. Jaspers, J. M.A. Hendriks, N.A. Kurniawan, G.H. Koenderink, P.H.J. Kouwer, A.E. Rowan, W.T.S. Huck, *Fibrin-fiber architecture influences cell spreading and differentiation*, Cell Adhes. Migr. **10** (5): 495-504 (2016)
22. A Sharma, AJ Licup, KA Jansen, R Rens, M Sheinman, GH Koenderink, FC MacKintosh, *Strain-controlled criticality governs the nonlinear mechanics of fiber networks*, Nature Physics **12**: 584–587 (2016)
23. I.K. Piechocka, K.A. Jansen, C.P. Broedersz, N.A Kurniawan, F.C. MacKintosh, G.H. Koenderink, *Multi-scale strain-stiffening of semiflexible bundle networks*, Soft Matter, **12** (7) 2145 – 2156 (2016)
24. F.C. Tsai, G.H. Koenderink, *Shape control of lipid bilayer membranes by confined actin bundles*, Soft Matter, 11, 8834-8847 (2015)
25. K.A. Jansen, D.M. Donato, H.E. Balcioglu, T. Schmidt, E.H. Danen, G.H. Koenderink, *A guide to mechanobiology: where biology and physics meet*, BBA – Mol. Cell Res. 1853: 3043-3052 (2015)
26. M. Sheinman, A. Sharma, J. Alvarado, G.H. Koenderink, F.C. MacKintosh, *Inherently unstable networks collapse to a critical point*, Phys. Rev. E. **92**, 012710: 1-6 (2015)
27. M. Sheinman, A. Sharma, J. Alvarado, G.H. Koenderink, F.C. MacKintosh, *Anomalous discontinuity at the percolation critical point of active gels*, Phys. Rev. Lett. 114: 098104 1-8 (2015)
28. T. Xu, D. Vavylonis, F-C. Tsai, G.H. Koenderink, W. Nie, E. Yusuf, I-Ju Lee, J.Q. Wu, X. Huang, *SOAX: A Software for Quantification of 3D Biopolymer Networks*, Scientific Reports 5: 9081 (2015)

29. F. Huber, A. Boire, M.P. Lopez, G.H. Koenderink, *Cytoskeletal crosstalk: when three different personalities team up*, Curr. Opin. Cell Biol. 32: 39-47 (2015)
30. C.C. vandenAkker, T. Deckert-Gaudig, M. Schleeger, K.P. Velikov, V. Deckert, M. Bonn and G.H. Koenderink, *Nanoscale Heterogeneity of the Molecular Structure of Individual hIAPP Amyloid Fibrils Revealed with Tip-Enhanced Raman Spectroscopy*, Small, 11: 4131- 4139 (2015)
31. I. Kirchenbuechler, D. Guu, N.A. Kurniawan, G.H. Koenderink, M.P. Lettinga, *Direct visualization of flow-induced conformational transitions of single actin filaments in entangled solutions*, Nat. Comm. 5: 5060 (2014)
    www.kennislink.nl, "Van spaghettislierten naar haarspelden", 10-10-2014
    www.schildersvak.nl, "De werking van verfroeren ontdekt", 14-10-2014
    www.c2w.nl, "Verf in close-up: Modelsysteem maakt werking van shear-thinning vloeistoffen duidelijk", 10-10-2014
32. M. Preciado Lopez, F. Huber, I. Grigoriev, M.O. Steinmetz, A. Akhmanova, G.H. Koenderink, M. Dogterom, *Actin-microtubule coordination at growing microtubule ends*, Nat. Comm. 5: 4778 (2014)
33. M. Soares e Silva, B. Stuhrmann, T. Betz and G.H. Koenderink, *Time-resolved microrheology of actively remodeling actomyosin networks*, New J. Phys. 16: 075010 1-21 (2014)
34. A.H. Lewis, I. Garlea, J. Alvarado, O.J. Dammone, P.D. Howell, A. Majumdar, B.M. Mulder, M.P. Lettinga, G.H. Koenderink, D.G. Aarts, *Colloidal liquid crystals in rectangular confinement: theory and experiment*, Soft Matter 10: 7865-73 (2014)
35. N.A. Kurniawan, J. Grimbergen, J. Koopman, G.H. Koenderink, *Factor XIII stiffens fibrin clots by causing fiber compaction*, J. Thromb. Haemost. 12: 1687-96 (2014)
36. M. Mavrakis, Y. Azou-Gros, F.-C. Tsai, J. Alvarado, A. Bertin, F. Iv, A. Kress, S. Brasselet, G.H. Koenderink, Thomas Lecuit, *Septins promote F-actin ring formation by cross-linking actin filaments into curved bundles*, Nature Cell Biology 16: 322-334 (2014)
37. J. Alvarado, B.M. Mulder, G.H. Koenderink, *Alignment of nematic and bundled semiflexible polymers in cell-sized confinement*, Soft Matter 10: 2329-2468 *Cover article (2014)
38. M. Atakhorrami, G.H. Koenderink, J.F. Palierne, F.C. MacKintosh, C.F. Schmidt, *Scale-dependent nonaffine elasticity of semiflexible polymer networks*, Phys. Rev. Lett. 112: 088101 (2014)
39. M. de Wild, W. Pomp, G.H. Koenderink, *Thermal memory in self-assembled collagen fibril networks*, Biophys J. 105:200-10 (2013)
40. K.A. Jansen, R.G. Bacabac, I.K. Piechocka and G.H. Koenderink, *Cells actively stiffen fibrin networks by generating contractile stress*, Biophys. J. **105**: 2240-2251 (2013)
41. J. Alvarado, M. Sheinman, A. Sharma, F.C. MacKintosh and G.H. Koenderink, *Molecular motors robustly drive active gels to a critically connected state*, Nature Phys. **9**: 591–597 *Cover article (2013)
42. A. Weinberger, F-C. Tsai, G.H. Koenderink, T.F. Schmidt, R. Itri, W. Meier, T. Schmatko, A. Schröder, C.M. Marques, *Gel-assisted formation of giant unilamellar vesicles*, Biophys. J. **105**: 154-164 (2013)
43. K. Carvalho, F.-C. Tsai, E. Lees, R. Voituriez, G.H. Koenderink, C. Sykes, *Cell-sized liposomes reveal how actomyosin cortical tension drives shape change*, Proc Natl Acad Sci U S A. 110:16456-61 (2013)
44. S.E.L. Detiger, R.J.W. Hoogendoorn, A.J. van der Veen, B.J. van Royen, M.N. Helder, G.H. Koenderink, Th. Smit, *Biomechanical and rheological characterisation of mild intervertebral disc degeneration in a large animal model*, J. Orthoped. Res. 31: 703-709 [Dutch Spine Society Award 2013] (2013)
45. M. Schleeger, C.C. vandenAkker, T. Deckert-Gaudig, V. Deckert, K.P. Velikov, G.H. Koenderink, M. Bonn, *Amyloids: from molecular structure to mechanical properties*, Polymer 54: 2473-2488 (2013)
46. J.L. Elliott, M Der Perng, A.R. Prescott, K.A. Jansen, G.H. Koenderink, R.A. Quinlan, *The specificity of the interaction between aB-crystallin and desmin filaments and its impact on filament aggregation and cell viability*, Phil. Trans. R. Soc. B 368: 20120375 1-15 (2013)

47. S. Mashagi, T. Jadidi, G.H. Koenderink, A. Mashagi, *Lipid Nanotechnology*, Int. J. Mol. Sci. 14: 4242-4282 (2013)
48. B.S. Gentry, S. van der Meulen, P. Noguera, B. Alonso-Latorre, J. Plastino, G.H. Koenderink, *Multiple actin binding domains of Ena/VASP Proteins determine actin network stiffening*, European Biophysical Journal 41: 979-990 (2012)
49. MF Engel, CC Vandenakker, M. Schleeger, KP Velikov, GH Koenderink, M. Bonn, *The polyphenol EGCG inhibits amyloid formation less efficiently at phospholipid interfaces than in bulk solution*, J. Am. Chem. Soc.134: 14781-8 (2012)
    [highlight op C2W website: http://www.c2w.nl/waarom-alzheimermedicatie-niet-werkt.282794.lynkx]
50. B. Stuhrmann, M. Soares e Silva, F.C. MacKintosh, G.H. Koenderink, *Nonequilibrium fluctuations of a remodeling in vitro cytoskeleton,* Phys. Rev. E 86, 020901(R) (2012)
    [APS highlight Aug 27, 2012, "The skeleton dance", http://physics.aps.org/synopsis-for/10.1103/PhysRevE.86.020901]
51. M. Dogterom and G.H. Koenderink, *Cell-membrane mechanics: Vesicles in and tubes out*, Nat. Mater. 10, 561–562 (2011)
52. C.C. vandenAkker, M.F.M. Engel, K.P. Velikov, M. Bonn and G.H. Koenderink, *Morphology and persistence length of amyloid fibrils are correlated to peptide molecular structure*, J. Am. Chem. Soc. **133**, 18030–18033 (2011).
53. J.L. Bron, L.A. Vonk, T.H. Smit and G.H. Koenderink, *Engineering alginate for intervertebral disc repair*, J. Mech. Behav. Biomed. Mater. **4**, 1196-1205 (2011).
54. M. Soares e Silva, M. Depken, B. Stuhrmann, M. Korsten, F.C. MacKintosh, G.H. Koenderink, *Active multistage coarsening of actin networks driven by myosin motors*, PNAS **108**, 9408-9413 (2011)
    Net van trekdraden geeft cellen vorm, De Volkskrant, May 23, 2011
55. I.K. Piechocka, A.S.G. van Oosten, Roel G.M. Breuls, G.H. Koenderink, *Rheology of heterotypic collagen networks*, Biomacromolecules **12**, 2797-2805 (2011).
56. F-C. Tsai, B. Stuhrmann and G.H. Koenderink, *Encapsulation of active cytoskeletal protein networks in cell-sized liposomes*, Langmuir **27**, 10061–10071 (2011).
57. M. Soares e Silva, J. Alvarado, Jeanette Nguyen, Nefeli Georgoulia, B.M. Mulder, G.H. Koenderink, *Self-organized patterns of actin filaments in cell-sized confinement*, Soft Matter **7**, 10631-10641 (2011).
58. Y.C. Lin, G.H. Koenderink, F.C. MacKintosh, D.A. Weitz, *Control of non-linear elasticity in F-actin networks with microtubules*, Soft Matter 7: 902-906 (2011)
59. I.K. Piechocka, R.G. Bacabac, M. Potters, F C. MacKintosh, G.H. Koenderink, *Structural hierarchy governs fibrin gel mechanics*, Biophys. J. 98: 2281-2289 (2010)
60. K.E. Kasza, C.P. Broedersz, G.H. Koenderink, Y.C. Lin, W. Messner, E.A. Millman, F. Nakamura, T.P. Stossel, F.C. MacKintosh, D.A. Weitz, *Actin filament length tunes elasticity of flexibly crosslinked actin networks*, Biophys. J. 99: 1091-1100 (2010)
61. J. Bron, G.H. Koenderink, V. Everts, T. Smit, *Rheological characterization of the nucleus pulposus and dense collagen scaffolds intended for functional replacement*, J. Orthopaedic Research, 27: 620-626 (2009).
62. G.H. Koenderink, Z. Dogic, F. Nakamura, P.M. Bendix, F.C. MacKintosh, J.H. Hartwig, T.P. Stossel, D.A. Weitz, *An active biopolymer network controlled by molecular motors*, Proc. Natl Acad Sci. USA. 106: 15192-15197 (2009)
63. C.P. Brangwynne, G.H. Koenderink, F.C. MacKintosh, D.A. Weitz, *Intracellular transport by active diffusion*, Trends Cell Biol., 19: 423-427 (2009).
64. K.E. Kasza, G.H. Koenderink, Y.C. Lin, C.P. Broedersz, W. Messner, F. Nakamura, T.P. Stossel, F.C. MacKintosh, D.A. Weitz, *Nonlinear elasticity of stiff biopolymers connected by flexible linkers*, Phys. Rev. E., 79: 041928 (2009).
65. C.P. Brangwynne, G.H. Koenderink, F.C. MacKintosh, D.A. Weitz, *Cytoplasmic diffusion: molecular motors mix it up*, J. Cell Biology, 183: 583-587 (2008).

66. M. Atakhorrami, D. Mizuno, GH Koenderink, TB Liverpool. FC MacKintosh, C.F. Schmidt, *Short-time inertial response of viscoelastic fluids measured with Brownian motion and with active probes*, Phys. Rev. E 77: 061508 (2008).
67. C.P. Brangwynne, G.H. Koenderink, F.C. MacKintosh, D.A. Weitz, *Nonequilibrium microtubule fluctuations in a model cytoskeleton*, Phys. Rev. Lett. 100: 118104 (2008).
68. P.M. Bendix, G.H. Koenderink, D. Cuvelier, Z. Dogic, B. Koeleman, W.M. Brieher, C.M. Field, L. Mahadevan, D.A. Weitz, *A quantitative analysis of contractility in active cytoskeletal protein networks*, Biophys J. 94: 3126-2136 (2008).
69. Y.-C. Lin, G.H. Koenderink, F.C. MacKintosh, D.A. Weitz, *Viscoelastic properties of microtubule networks*, Macromolecules 40:7714 (2007).
70. K.E. Kasza, A.C. Rowat, J. Liu, T.E. Angelini, C.P. Brangwynne, G.H. Koenderink, D.A. Weitz, *The cell as a material*, Curr. Opin. Cell Biol. 19: 101-107 (2007).
71. J. Liu, G.H. Koenderink, K.E. Kasza, F.C. MacKintosh, D.A. Weitz, *Visualizing the strain field in semiflexible polymer networks: strain fluctuations and nonlinear rheology of F-actin gels*, Phys. Rev. Lett. 98: 198304 (2007).
72. C.P. Brangwynne, G.H. Koenderink, E. Barry, Z. Dogic, F.C. MacKintosh, D.A. Weitz, *Bending dynamics of fluctuating biopolymers probed by automated high-resolution filament tracking*, Biophys. J. 93: 346-359 (2007).
73. G.H. Koenderink, M. Atakhorrami, F.C. MacKintosh, C.F. Schmidt, *High-frequency stress relaxation in semiflexible polymer solutions and networks*, Phys. Rev. Lett. 96: 13807 (2006).
74. M. Atakhorrami, J.I. Sulkowska, K.M. Addas, G.H. Koenderink, J.X. Tang, A.J. Levine, F.C. MacKintosh, C.F. Schmidt, *Correlated fluctuations of microparticles in viscoelastic solutions: Quantitative measurement of material properties by microrheology in the presence of optical traps*, Phys. Rev. E 73: 061501 (2006).
75. M. Atakhorrami, G.H. Koenderink, F.C. MacKintosh, C.F. Schmidt, *Short-time inertial response of viscoelastic fluids: observation of vortex propagation*, Phys. Rev. Lett. 95: 208302 (2005).
76. K. Planken, G.H. Koenderink, R. Roozendaal, A.P. Philipse, *Monodisperse DNA restriction fragments. I: Synthesis and characterization*, J. Colloid Interface Sci. 291: 120-125 (2005).
77. G.H. Koenderink, K. Planken, R. Roozendaal, A.P. Philipse, *Monodisperse DNA restriction fragments. II: Sedimentation velocity and equilibrium measurements*, J. Colloid Interface Sci. 291:126-134 (2005)
78. M.P. Lettinga, G.H. Koenderink, B.W.M. Kuipers, E. Bessels, A.P. Philipse, *Rotational dynamics of colloidal spheres probed with fluorescence recovery after photobleaching*, J. Chem. Phys. 120: 4517-4529 (2004).
79. G.H. Koenderink, S. Sacanna, D.G.A.L. Aarts, A.P. Philipse, *Rotational and translational diffusion of fluorocarbon tracer spheres in semidilute xanthan solutions*, Phys. Rev. E 69: 021804 (2004).
80. L. Helden, G.H. Koenderink, A. Phillipse, P. Leiderer, C. Bechinger, *Depletion potentials of charged rods*, Langmuir 20: 5662-5665 (2004).
81. S. Sacanna, G.H. Koenderink, A.P. Philipse, *Microemulsion synthesis of fluorinated latex spheres*, Langmuir 20: 8398-8400 (2004).
82. G.H. Koenderink, D.G.A.L. Aarts,V.W.A. de Villeneuve, A.P. Philipse, R. Tuinier, H.N.W. Lekkerkerker, *Morphology and kinetics of phase separating transparent xanthan-colloid mixtures*, Biomacromolecules 4: 129-136 (2003).
83. G.H. Koenderink, H. Zhang, D.G.A.L. Aarts, M.P. Lettinga, A.P. Philipse, G. Nägele, *On the validity of Stokes-Einstein-Debye relations for rotational diffusion in colloidal suspensions*, Faraday Discuss 123: 335-354 (2003).
84. L. Helden, R. Roth, G.H. Koenderink, P. Leiderer, C. Bechinger, *Direct measurement of entropic forces induced by rigid rods*, Phys. Rev. Lett. 90: 048301 (2003).
85. A.P. Philipse, G.H. Koenderink, *Sedimentation-diffusion profiles and layered sedimentation of charged colloids at low ionic strength*, Adv. Colloid Interfac. Sci. 100: 613-639 (2003).
86. G.H. Koenderink, D.G.A.L. Aarts, A.P. Philipse, *Rotational dynamics of colloidal tracer spheres in suspensions of charged rigid rods*, J. Chem. Phys. 119: 4490-4499 (2003).

87. G.H. Koenderink, M.P. Lettinga, A.P. Philipse, *Rotational dynamics of charged colloidal spheres: Role of particle interactions*, J. Chem. Phys. 117: 7751-7764 (2002).
88. G.H. Koenderink, S. Sacanna, C. Pathmamanoharan, M. Rasa, A.P. Philipse, *Preparation and properties of optically transparent aqueous dispersions of monodisperse fluorinated colloids*, Langmuir 17: 6086-6093 (2001).
89. G.H. Koenderink, H. Zhang, M.P. Lettinga, G. Nägele, A.P. Philipse, *Rotational tracer diffusion in binary colloidal sphere mixtures*, Phys. Rev. E 64: 022401 (2001).
90. S.G.J.M. Kluijtmans, G.H. Koenderink, A.P. Philipse, *Self-diffusion and sedimentation of tracer spheres in (semi)dilute dispersions of rigid colloidal rods*, Phys. Rev. E 61: 626-636 (2000).
91. G.H. Koenderink, A.P. Philipse, *Rotational and translational self-diffusion in colloidal sphere suspensions and the applicability of generalized Stokes-Einstein relations*, Langmuir 16: 5631-5638 (2000).
92. G.H. Koenderink, A.P. Philipse, *On Stokes-Einstein and Debye behaviour in colloidal fluids*, J. Phys. IV France 10: Pr7-295 (2000).
93. G.H. Koenderink, A.P. Philipse, S.G.J.M. Kluijtmans, *Sphere dynamics in isotropic colloidal rod fluids*, J. Phys.: Condens. Matter 12: A339-A343 (2000).
94. G.H. Koenderink, R.H. Brzesowsky, A.R. Balkenende, *Effect of the initial stages of leaching on the surface of alkaline earth sodium silicate glasses*, J. Non-Crystalline Solids 262: 80-98 (2000).
95. G.H. Koenderink, G.A. Vliegenthart, S.G.J.M. Kluijtmans, A. van Blaaderen, A.P. Philipse, H.N.W. Lekkerkerker, *Depletion-induced crystallization in colloidal rod-sphere mixtures*, Langmuir 15: 4693-4696 (1999).
96. G.H. Koenderink, S.G.J.M. Kluijtmans, A.P. Philipse, *On the synthesis of colloidal imogolite fibers*, J. Colloid Interface Sci. 216: 429-431 (1999).

Book sections and conference proceedings

- B. Gentry, S. Suei, J. Alvarado, L. Kreplak, G.H. Koenderink, *Mechanical properties of active biopolymer networks*, Book Chapter in: *Active Soft Matter: from dynamics to nano-machines*, Editor: Y. Roichman. WSPC/Imperial College Press (publication pending, 2017)
- Chapter 18: *Purification of recombinant human and Drosophila septin hexamers for TIRF assays of actin–septin filament assembly*, M. Mavrakis, F.C. Tsai, G.H. Koenderink, in: Septins, Methods in Cell Biology 136 (August 2016)/Edited by A.S. Gladfelter, Amsterdam: Elsevier
- *Reconstituting cytoskeletal contraction events with biomimetic actin-myosin active gels*
  J. Alvarado, G.H. Koenderink, In: Building a cell from its component parts / edited by J. Ross and W. Marshall - Amsterdam: Elsevier, Methods in Cell Biology 128 (2015) 83-103
- *Active mechanics of the cytoskeleton*
  J. Alvarado and G.H. Koenderink, In: Cell and Matrix Mechanics / eds. R. Kaunas and A. Zemel. - London: Taylor & Francis, 2014
- *In vitro reconstitution of dynamic microtubules interacting with actin filament networks*
  M. Preciado Lopez, F. Huber, I. Grigoriev, M.O. Steinmetz, A. Akhamanova, M. Dogterom and G.H. Koenderink, Chapter 17: 301-20 in "Methods in Enzymology" volume 540, Edited by R.D. Vale, Amsterdam: Elsevier (2014)
- *Biomimetic liposome model systems to study cell shape control by the cytoskeleton*
  F.-C. Tsai, S. Roth, M. Dogterom and G.H. Koenderink, Chapter 6: 139-174 in "Advances in Planar Lipid Bilayers and Liposomes" volume 19, Edited by A. Iglic and C. Kulkarni, Amsterdam: Elsevier (2014)
- *Structural basis for the polymorphism of β-lactoglobulin amyloid-like fibrils*
  C.C. VandenAkker, M. Schleeger, M. Bonn and G.H. Koenderink, Chapter 31: 333-343 in "Bio-nanoimaging, Protein Misfolding and Aggregation", Edited by V.N. Uversky and Y.L. Lyubchenko, Amsterdam: Elsevier/Academic Press (2014)

- *Mechanical properties of living cells: on mechanosensing and microgravity*
  R. G. Bacabac, D. Mizuno and G.H. Koenderink, p. 23-54 in "Cell Mechanochemistry", Edited by M. Monici and J. van Loon. - Kerala/India: Transworld Research Network (2010).
- *Laser trapping and laser interferometry for high-bandwidth micromechanical probing of biomaterials*
  D. Mizuno, M. Atakhorrami, K.M. Addas, J.X. Tang, G.H. Koenderink, F.C. MacKintosh, C.F. Schmidt, IEEE Xplore: Proceedings of the IEEE (2008).
- *Active gels: structure and dynamics of actin-myosin networks*
  G.H. Koenderink, Chapter C11, 39th IFF Spring School 2008 – Soft Matter: From synthetic to biological materials", Schriften des Forschungszentrums Juelich, Key Technologies, Volume 1 (ISBN 1866-1807, 987-3-89336-517-3).

Popular publications

- *Building synthetic cells to understand the biophysics of cell shape control*
  G.H. Koenderink, Amsterdam Science Magazine, November 2016
  See: http://amsterdamscience.org/building-synthetic-cells-to-understand-the-biophysics-of-cell-shape-control/
- *Actieve vezelnetwerken*
  J. Alvarado, M. Sheinman, A. Sharma, F.C. MacKintosh, G.H. Koenderink, Nederlands Tijdschrift voor Natuurkunde 80: 40-43 (2014).
- *Moleculaire motoren*,
  J. Alvarado and G.H. Koenderink, Rubriek 'Ingelijst': Nederlands Tijdschrift voor Natuurkunde 80: 133 (2014).
- *Aktieve materiaaleigenschappen van de levende cel*
  G.H. Koenderink, F.C. MacKintosh, Nederlands Tijdschrift voor Natuurkunde 76: 146-150 (2010).
- *Staafjes Brengen Bolletjes Bij Elkaar*
  Martijn Oversteegen, Gijsje Koenderink, Judith Wijnhoven, Henk Lekkerkerker, Chemisch2Weekblad, 99: 14-15 (2003).

PhD Theses as promoter

1. Y. Mulla, The cell: strong, soft matter, Vrije Universiteit Amsterdam (thesis submitted on 1-9-2018)
2. B.E. Vos, Fibrin structure and mechanics: a journey across scales, Vrije Universiteit Amsterdam (05-10-2018)
3. O.M.J.A. Stassen, Molecular and mechanical functions of the intermediate filament protein GFAP – beyond the wicker work, Universiteit van Amsterdam (2-12-2016) (* 2nd promotor, 1st promoter Prof. E.M. Hol @ UvA).
4. K. A. Jansen, *Extracellular matrix mechanics and implications for cellular mechanosensing*, Vrije Universiteit Amsterdam (11-02-2016)
5. J. (T.T.) Nguyen, *A twisted breakup story: flow behavior of chiral nematic fluids*, Vrije Universiteit Amsterdam (15-04-2015)
6. M. Preciado Lopez, *In vitro studies of actin-microtubule coordination*, Vrije Universiteit Amsterdam (9-03-2015)
7. C.C. VandenAkker, *Amyloids: from molecular structure to mechanical properties*, Vrije Universiteit Amsterdam (2-10-2014)
8. F.-C. Tsai, *Cytoskeletal organization in biomimetic liposomes*, Vrije Universiteit Amsterdam (15-1-2014)
9. J. Alvarado, *Biological polymers: confined, bent, and driven*, Vrije Universiteit Amsterdam (17-6-2013)
10. H. Bron, *Novel regenerative strategies for the treatment of intervertebral disc herniation*, Vrije Universiteit Amsterdam (27-11-2012) (* co-promotor). ARGOSpine Thesis Award.

11. I.K. Piechocka, *Biopolymers: from structural hierarchy to nonlinear rheology*, Vrije Universiteit Amsterdam (23-11-2011)
12. M. Soares e Silva, *Structure and dynamics of active actin myosin networks: an in vitro perspective*, Vrije Universiteit Amsterdam (21-10-2011)

PhD Thesis

- *Rotational and translational self-diffusion in colloidal mixtures* (*Cum Laude*, May 2003, University of Utrecht, advisor: Prof. dr. A.P. Philipse)