

Publication list (1984–2025): Gerhard Gompper

- [1] Bohan Wu-Zhang, Peixin Zhang, Renaud Baillou, Anke Lindner, Eric Clément, Gerhard Gompper, and Dmitry A. Fedosov. Run-and-tumble dynamics of *E. coli* is governed by its mechanical properties. *J. Roy. Soc. Interface*, to appear, 2025.
- [2] Shubham Anand, Jens Elgeti, and Gerhard Gompper. Viscotaxis of beating flagella. *Soft Matter*, to appear, 2025.
- [3] Alfredo Sciortino, Hammad A. Faizi, Dmitry A. Fedosov, Layne Frechette, Petia Vlahovska, Gerhard Gompper, and Andreas R. Bausch. Active membrane deformations of a minimal synthetic cell. *Nat. Phys.*, to appear, 2025.
- [4] Segun Goh, Elmar Westphal, Roland G. Winkler, and Gerhard Gompper. Swimming and swarming of self-propelled cognitive particles with hydrodynamic interactions. In Christine Peter and Alexander Trautmann, editors, *NIC Symposium 2025*, volume 52 of *NIC series*, pages 65–74, Jülich, 2025. Neumann Institute for Computing.
- [5] Nishant Baruah, Jiarul Midya, Gerhard Gompper, Anil Kumar Dasanna, and Thorsten Auth. Adhesion-driven vesicle translocation through membrane-covered pores. *Biophys. J.*, 124:740–752, 2025.
- [6] Gerhard Gompper, Howard A. Stone, Christina Kurzthaler, David Saintillan, Fernando Peruani, Dmitry A. Fedosov, Thorsten Auth, Cecile Cottin-Bizonne, Christophe Ybert, Eric Clément, Thierry Darnige, Anke Lindner, Raymond E. Goldstein, Benno Liebchen, Jack Binysh, Anton Souslov, Lucio Isa, Roberto di Leonardo, Giacomo Frangipane, Hongri Gu, Bradley J. Nelson, Fridtjof Brauns, M. Cristina Marchetti, Frank Cichos, Veit-Lorenz Heuthe, Clemens Bechinger, Amos Korman, Ofer Feinerman, Andrea Cavagna, Irene Giardina, Hannah Jeckel, and Knut Drescher. The 2025 motile active matter roadmap. *J. Phys. Condens. Matter*, 37:143501 [1–58], 2025.
- [7] Segun Goh, Elmar Westphal, Roland G. Winkler, and Gerhard Gompper. Alignment-induced self-organization of autonomously steering microswimmers: Turbulence, clusters, vortices, and jets. *Phys. Rev. Research*, 7:013142 [1–17], 2025.
- [8] Sameh Othman, Jiarul Midya, Thorsten Auth, and Gerhard Gompper. Phase behavior and dynamics of active Brownian particles in an alignment field. *Phys. Rev. E*, 111:015425 [1–8], 2025.
- [9] Elmar Westphal, Segun Goh, Roland G. Winkler, and Gerhard Gompper. HTMPC: A heavily templated C++ library for large scale particle-based

mesoscale hydrodynamics simulations using Multiparticle Collision Dynamics. *Comput. Phys. Commun.*, 309:109494 [1–13], 2025.

- [10] Nabanita Hazra, Andrey A. Rudov, Jiarul Midya, Andrey Babenyshev, Steffen Bochenek, Martin Frenken, Walter Richtering, Gerhard Gompper, Thorsten Auth, Igor I. Potemkin, and Jérôme J. Crassous. Capillary driven self-assembly of composite ellipsoidal microgels at the air/water interface. *Proc. Natl. Acad. Sci. USA*, 121:e2403690121 [1–12], 2024.
- [11] Priyanka Iyer, Rajendra Singh Negi, Andreas Schadschneider, and Gerhard Gompper. Directed motion of cognitive active agents in a crowded three-way intersection. *Commun. Phys.*, 7:379 [1–11], 2024.
- [12] Joscha Mecke, Yongxiang Gao, Gerhard Gompper, and Marisol Ripoll. Chiral active systems near a substrate: Emergent damping length controlled by fluid friction. *Commun. Phys.*, 7:332 [1–10], 2024.
- [13] Maximilian R. Bailey, Dmitry A. Fedosov, Federico Paratore, Fabio Grillo, Gerhard Gompper, and Lucio Isa. Low efficiency of Janus microswimmers as hydrodynamic mixers. *Phys. Rev. E*, 110:044601 [1–8], 2024.
- [14] Priyanka Iyer and Gerhard Gompper. Von Schwimmern und Schwärmen. *Physik in unserer Zeit*, 55:228–233, 2024.
- [15] Bohan Wu-Zhang, Dmitry A. Fedosov, and Gerhard Gompper. Collective behavior of squirmers in thin films. *Soft Matter*, 20:5687–5702, 2024.
- [16] Rodrigo Saavedra, Gerhard Gompper, and Marisol Ripoll. Swirling due to misaligned perception-dependent motility. *Phys. Rev. Lett.*, 132:268301 [1–6], 2024.
- [17] Rajendra Singh Negi, Priyanka Iyer, and Gerhard Gompper. Controlling inter-particle distances in crowds of motile, cognitive, active particles. *Scientific Reports*, 14:9443 [1–13], 2024.
- [18] Andrea Braeutigam, Anton Burnet, Gerhard Gompper, and Benedikt Sabass. Clutch model for focal adhesions predicts reduced self-stabilization under oblique pulling. *J. Phys. Condens. Matter*, 36:295101 [1–14], 2024.
- [19] Ahmet Nihat Simsek, Matthias D. Koch, Joseph E. Sanfilippo, Zemer Gitai, Gerhard Gompper, and Benedikt Sabass. Bacteria tune a trade-off between adhesion and migration to colonize surfaces under flow. *PRX Life*, 2:023003 [1–14], 2024.

- [20] Johannes C. Krämer, Edouard Hannezo, Gerhard Gompper, and Jens Elgeti. Mechanically-driven stem cell separation in tissues caused by proliferating daughter cell. *SciPost Phys.*, 16:097 [1–26], 2024.
- [21] Dmitry A. Fedosov and Gerhard Gompper. Cells on a string – characterizing cellular structure and dynamics through viscoelastic phenotyping (new & notable). *Biophys. J.*, 123:757–758, 2024.
- [22] Florian Overberg, Gerhard Gompper, and Dmitry A. Fedosov. Motion of microswimmers in cylindrical microchannels. *Soft Matter*, 20:3007–3020, 2024.
- [23] Rajendra Singh Negi, Roland G. Winkler, and Gerhard Gompper. Collective behavior of self-steering active particles with velocity alignment and visual perception. *Phys. Rev. Research*, 6:013118 [1–17], 2024.
- [24] J. Mecke, Y. Gao, A. Medina, D.G.A.L. Aarts, G. Gompper, and M. Ripoll. Simultaneous emergence of active turbulence and odd viscosity in a colloidal chiral active system. *Commun. Phys.*, 6:324 [1–13], 2023.
- [25] Segun Goh, Roland G. Winkler, and Gerhard Gompper. Hydrodynamic pursuit by cognitive self-steering microswimmers. *Commun. Phys.*, 6:310 [1–11], 2023.
- [26] Priyanka Iyer, Roland G. Winkler, Dmitry A. Fedosov, and Gerhard Gompper. Dynamics and phase separation of active Brownian particles on curved surfaces and in porous media. *Phys. Rev. Research*, 5:033054 [1–12], 2023.
- [27] Xiaoyan Liu, Thorsten Auth, Nabanita Hazra, Morten Frendø Ebbesen, Jonathan Brewer, Gerhard Gompper, Jerome Crassous, and Emma Sparr. Wrapping anisotropic microgel particles in lipid membranes – effects of particle shape and membrane rigidity. *Proc. Natl. Acad. Sci. USA*, 120:e2217534120, 2023.
- [28] Priyanka Iyer, Gerhard Gompper, and Dmitry A. Fedosov. Dynamic shapes of floppy vesicles enclosing active Brownian particles with membrane adhesion. *Soft Matter*, 19:3436–3449, 2023.
- [29] Marielle Gassner, Segun Goh, Gerhard Gompper, and Roland G. Winkler. Noisy pursuit by a self-steering active particle in confinement. *EPL*, 142:21002, 2023.
- [30] Jiarul Midya, Thorsten Auth, and Gerhard Gompper. Membrane-mediated interactions between non-spherical elastic particles attached to cells. *ACS nano*, 17:1935–1945, 2023.

- [31] Benedikt Sabass, Roland G. Winkler, Thorsten Auth, Jens Elgeti, Dmitry A. Fedosov, Marisol Ripoll, Gerard A. Vliegenthart, and Gerhard Gompper. Computational physics of active matter. In Christina Kurzthaler, Luigi Gentile, and Howard A. Stone, editors, *Out-of-Equilibrium Soft Matter: Active Fluids*, volume 17 of *Soft Matter*, chapter 10, pages 354–390. Royal Society of Chemistry, 2023.
- [32] Yunfei Huang, Youssef Mabrouk, Gerhard Gompper, and Benedikt Sabass. Sparse inference and active learning of stochastic differential equations from data. *Sci. Rep.*, 12:25638 [1–17], 2022.
- [33] Christian A. Philipps, Gerhard Gompper, and Roland G. Winkler. Tangentially driven active polar linear polymers – an analytical study. *J. Chem. Phys.*, 157:194904 [1–14], 2022.
- [34] Julien Tailleur, Gerhard Gompper, M. Cristina Marchetti, Julia Yeomans, and Christophe Salomon, editors. *Active Matter and Non-equilibrium Physics*. Les Houches Lecture Notes. Oxford University Press, Oxford, UK, 2022.
- [35] Segun Goh, Roland G. Winkler, and Gerhard Gompper. Noisy pursuit and pattern formation of self-steering active particles. *New J. Phys.*, 24:093039 [1–13], 2022.
- [36] Priyanka Iyer, Gerhard Gompper, and Dmitry A. Fedosov. Non-equilibrium shapes and dynamics of active vesicles. *Soft Matter*, 18:6868–6881, 2022.
- [37] Kai Zhou, Marc Hennes, Berenike Maier, Gerhard Gompper, and Benedikt Sabass. Non-equilibrium dynamics of bacterial colonies – growth, active fluctuations, segregation, adhesion, and invasion. *Commun. Phys.*, 5:251 [1–13], 2022.
- [38] Rajendra Singh Negi, Roland G. Winkler, and Gerhard Gompper. Emergent collective behavior of active Brownian particles with visual perception. *Soft Matter*, 18:6167–6178, 2022.
- [39] Gerhard Gompper. Biomimetic microrobotics: Delivering microcargo with artificial microtubules (news & views). *Nat. Mach. Intell.*, 4:663–664, 2022.
- [40] Dmitry A. Fedosov and Gerhard Gompper. Blood rheology and biomedical implications. In Daniel De Kee and Arun Ramachandran, editors, *Recent Advances in Rheology*, volume 1: Theory and Biorheology, chapter 4, pages 4–1 – 4–40. American Institute of Physics, Melville, New York, 2022.
- [41] Christian A. Philipps, Gerhard Gompper, and Roland G. Winkler. Dynamics of active polar ring polymers. *Phys. Rev. E (Letter)*, 105:L062501 [1–6], 2022.

- [42] Judit Clopés, Gerhard Gompper, and Roland G. Winkler. Alignment and propulsion of squirmer pusher-puller dumbbells. *J. Chem. Phys.*, 156:194901 [1–10], 2022.
- [43] Andrea Braeutigam, Ahmet Nihat Simsek, Gerhard Gompper, and Benedikt Sabass. Generic self-stabilization mechanism for biomolecular adhesions under load. *Nat. Commun.*, 13:2197 [1–9], 2022.
- [44] Kai Qi, Elmar Westphal, Gerhard Gompper, and Roland G. Winkler. Emergence of active turbulence in microswimmer suspensions due to active hydrodynamic stress and volume exclusion. *Commun. Phys.*, 5:49 [1–12], 2022.
- [45] Anil Kumar Dasanna, Alexis Darras, Thomas John, Gerhard Gompper, Lars Kaestner, Christian Wagner, and Dmitry A. Fedosov. Erythrocyte sedimentation: Effect of aggregation energy on gel structure during collapse. *Phys. Rev. E*, 105:024610 [1–11], 2022.
- [46] Alexis Darras, Anil Kumar Dasanna, Thomas John, Gerhard Gompper, Lars Kaestner, Dmitry A. Fedosov, and Christian Wagner. Erythrocyte sedimentation: Fracture and collapse of a high-volume-fraction soft-colloid gel. *Phys. Rev. Lett.*, 128:088101 [1–6], 2022.
- [47] Judit Clopés Llahí, Aitor Martín-Gómez, Gerhard Gompper, and Roland G. Winkler. Simulating wet active polymers by multiparticle collision dynamics. *Phys. Rev. E*, 105:015310 [1–11], 2022.
- [48] Gerhard Gompper, Clemens Bechinger, Holger Stark, and Roland G. Winkler. Editorial: Motile active matter. *Eur. Phys. J. E*, 44:103 [1–3], 2021.
- [49] Anil K. Dasanna, Sebastian Hillringhaus, Gerhard Gompper, and Dmitry A. Fedosov. Effect of malaria parasite shape on its alignment at erythrocyte membrane. *eLife*, 10:e68818, 2021.
- [50] S. Mahdiyeh Mousavi, Gerhard Gompper, and Roland G. Winkler. Active bath-induced swelling, localization and collapse of passive semiflexible polymers. *J. Chem. Phys.*, 155:044902 [1–10], 2021.
- [51] Antonio Lamura, Roland G. Winkler, and Gerhard Gompper. Wall-anchored semiflexible polymer under large-amplitude oscillatory shear flow. *J. Chem. Phys.*, 154:224901 [1–9], 2021.
- [52] An Gong, Sebastian Rode, Gerhard Gompper, U. Benjamin Kaupp, Jens Elgeti, Benjamin M. Friedrich, and Luis Alvarez. Reconstruction of the three-dimensional beat pattern underlying swimming behaviors of sperm. *Eur. Phys. J. E*, 44:87 [1–12], 2021.

- [53] Sebastian Rode, Jens Elgeti, and Gerhard Gompper. Multi-ciliated microswimmers – metachronal coordination and helical swimming. *Eur. Phys. J. E*, 44:76 [1–14], 2021.
- [54] Anil K. Dasanna, Johannes Mauer, Gerhard Gompper, and Dmitry A. Fedosov. Importance of viscosity contrast for the motion of erythrocytes in microcapillaries. *Front. Phys.*, 9:666913 [1–9], 2021.
- [55] Lucas da Costa Campos, Raphael Hornung, Gerhard Gompper, Jens Elgeti, and Svenja Caspers. The role of thickness inhomogeneities in hierarchical cortical folding. *NeuroImage*, 231:117779 [1–9], 2021.
- [56] Debarati Sarkar, Gerhard Gompper, and Jens Elgeti. A minimal model for structure, dynamics, and tension in monolayer cell colonies. *Commun. Phys.*, 4:36 [1–8], 2021.
- [57] Run Li, Gerhard Gompper, and Marisol Ripoll. Tumbling and vorticity drift of flexible helicoidal polymers in shear flow. *Macromolecules*, 54:812–823, 2021.
- [58] Gerhard Gompper. Effektive Strategie gesucht. *Physik Journal*, 20 (2):18–19, 2021.
- [59] Wei Chien, Gerhard Gompper, and Dmitry A. Fedosov. Effect of cytosol viscosity on the flow behavior of red blood cell suspensions in microvessels. *Microcirculation*, 28:e12668 [1–14], 2021.
- [60] Marc D. Emanuel, Andrey G. Cherstvy, Ralf Metzler, and Gerhard Gompper. Buckling transitions and soft-phase invasion in two-component icosahedral shells. *Phys. Rev. E*, 102:062104 [1–26], 2020.
- [61] Judit Clopés, Gerhard Gompper, and Roland G. Winkler. Orientational alignment and motility of squirmer dumbbells. *Soft Matter*, 16:10676–10687, 2020.
- [62] Sebastian Rode, Jens Elgeti, and Gerhard Gompper. Chiral-filament self-assembly on curved manifolds. *Soft Matter*, 16:10548–10557, 2020.
- [63] Sanja Novak, Jing Zhang, Emmanuel Kentzinger, Ulrich Rücker, Giuseppe Portale, Niklas Jung, Ulrich Jonas, Jin S. Myung, Roland G. Winkler, Gerhard Gompper, Jan K. G. Dhont, and Emmanuel Stiakakis. DNA self-assembly mediated by programmable soft-patchy interactions. *ACS nano*, 14:13524–13535, 2020.
- [64] Anil K. Dasanna, Gerhard Gompper, and Dmitry A. Fedosov. Stability of heterogeneous parallel-bond adhesion clusters under load. *Phys. Rev. Research*, 2:043063 [1–10], 2020.

- [65] Hanumantha Rao Vutukuri, Masoud Hoore, Clara Abaurrea-Velasco, Lennard van Buren, Alessandro Dutto, Thorsten Auth, Dmitry A. Fedosov, Gerhard Gompper, and Jan Vermant. Active particles induce large shape deformations in giant lipid vesicles. *Nature*, 586:52–56, 2020.
- [66] Gerhard Gompper, Thorsten Auth, Jona Kayser, and Joachim O. Rädler. Wissenschaftskommunikation im Wandel. *Physik Journal*, 19 (8/9):108–109, 2020.
- [67] Axel Hochstetter, Rohan Vernekar, Robert H. Austin, Holger Becker, Jason P. Beech, Dmitry A. Fedosov, Gerhard Gompper, Sung-Cheol Kim, Joshua T. Smith, Gustavo Stolovitzky, Jonas O. Tegenfeldt, Benjamin H. Wunsch, Kerwin K. Zeming, Timm Krüger, and David W. Inglis. Deterministic lateral displacement – challenges and perspectives. *ACS nano*, 14:10784–10795, 2020.
- [68] Kai Qi, Hemalatha Annepu, Gerhard Gompper, and Roland G. Winkler. Rheotaxis of spheroidal squirmers in microchannel flow: interplay of shape, hydrodynamics, active stress, and thermal fluctuations. *Phys. Rev. Research*, 2:033275 [1–15], 2020.
- [69] Roland G. Winkler and Gerhard Gompper. The physics of active polymers and filaments. *J. Chem. Phys.*, 153:040901 [1–21], 2020.
- [70] Tobias Büscher, Angel L. Diez, Gerhard Gompper, and Jens Elgeti. Instability and fingering of interfaces in growing tissue. *New J. Phys.*, 22:083005 [1–10], 2020.
- [71] Sebastian Hillringshaus, Anil K. Dasanna, Gerhard Gompper, and Dmitry A. Fedosov. Stochastic bond dynamics facilitates alignment of malaria parasite at erythrocyte membrane upon invasion. *eLife*, 9:e56500 [1–23], 2020.
- [72] G. A. Vliegenthart, A. Ravichandran, M. Ripoll, T. Auth, and G. Gompper. Filamentous active matter: Band formation, bending, buckling, and defects. *Sci. Adv.*, 6:eaaw9975 [1–8], 2020.
- [73] S. Mahdiyeh Mousavi, Gerhard Gompper, and Roland G. Winkler. Wall entrapment of peritrichous bacteria: A mesoscale hydrodynamics simulation study. *Soft Matter*, 16:4866–4875, 2020.
- [74] Aitor Martin-Gomez, Thomas Eisenstecken, Gerhard Gompper, and Roland G. Winkler. Hydrodynamics of polymers in an active bath. *Phys. Rev. E*, 101:052612 [1–15], 2020.
- [75] Yunfei Huang, Gerhard Gompper, and Benedikt Sabass. Bayesian fourier transform traction cytometry: automated noise reduction and a user-friendly software package. *Comp. Phys. Comm.*, 256:107313 [1–9], 2020.

- [76] M. Reza Shaebani, Adam Wysocki, Roland G. Winkler, Gerhard Gompper, and Heiko Rieger. Computational models for active matter. *Nat. Rev. Phys.*, 2:181–199, 2020.
- [77] Koohee Han, Gašper Kokot, Shibananda Das, Roland G. Winkler, Gerhard Gompper, and Alexey Snezhko. Reconfigurable structure and tunable transport in synchronized active spinner materials. *Sci. Adv.*, 6:eaaz8535 [1–7], 2020.
- [78] Qingfen Yu, Sabyasachi Dasgupta, Thorsten Auth, and Gerhard Gompper. Osmotic concentration-controlled particle uptake and wrapping-induced lysis of cells and vesicles. *Nano Lett.*, 20:1662–1668, 2020.
- [79] Tobias Büscher, Nirmalendu Ganai, Gerhard Gompper, and Jens Elgeti. Tissue evolution: Mechanical interplay of adhesion, pressure, and heterogeneity. *New J. Phys.*, 22:033048 [1–9], 2020.
- [80] Fatemeh A. Soleymani, Marisol Ripoll, Gerhard Gompper, and Dmitry A. Fedosov. Dissipative particle dynamics with energy conservation: isoenergetic integration and transport properties. *J. Chem. Phys.*, 152:064112 [1–12], 2020.
- [81] Kai Qi, Elmar Westphal, Gerhard Gompper, and Roland G. Winkler. Enhanced rotational motion of a spherical squirmer in polymer solutions. *Phys. Rev. Lett.*, 124:068001 [1–6], 2020.
- [82] Gerhard Gompper, Roland G. Winkler, Thomas Speck, Alexandre Solon, Cesare Nardini, Fernando Peruani, Hartmut Löwen, Ramin Golestanian, U. Benjamin Kaupp, Luis Alvarez, Thomas Kioerboe, Eric Lauga, Wilson Poon, Antonio De Simone, Frank Cichos, Alexander Fischer, Santiago Muinos Landin, Nicola Söker, Raymond Kapral, Pierre Gaspard, Marisol Ripoll, Francesc Sagues, Julia Yeomans, Amin Doostmohammadi, Igor Aronson, Clemens Bechinger, Holger Stark, Charlotte Hemelrijk, Francois Nedelec, Trinish Sarkar, Thibault Aryaksama, Mathilde Lacroix, Guillaume Duclos, Victor Yashunsky, Pascal Silberzan, Marino Arroyo, and Sohan Kale. The 2020 motile active matter roadmap. *J. Phys.: Condens. Matter*, 32:193001 [1–67], 2020.
- [83] Karandeep Singh, Qingfen Yu, Sabyasachi Dasgupta, Gerhard Gompper, and Thorsten Auth. From continuum modeling of nanoparticle-membrane interaction toward nanotoxicology. In Agnieszka Gajewicz and Tomasz Puzy, editors, *Computational Nanotoxicology: Challenges and Perspectives*, chapter 5, pages 217–243. Jenny Stanford Publishing, Stanford, 2020.
- [84] A. Gong, S. Rode, U. B. Kaupp, G. Gompper, J. Elgeti, B. M. Friedrich, and L. Alvarez. The steering gaits of sperm. *Philos. Trans. Royal Soc. B*, 375:20190149 [1–9], 2019.

- [85] Clara Abaurrea-Velasco, Thorsten Auth, and Gerhard Gompper. Vesicles with internal active filaments: self-organized propulsion controls shape, motility, and dynamical response. *New J. Phys.*, 21:123024 [1–13], 2019.
- [86] David Toneian, Gerhard Kahl, Gerhard Gompper, and Roland G. Winkler. Hydrodynamic correlations of viscoelastic fluids by multiparticle collision dynamics simulations. *J. Chem. Phys.*, 151:194110 [1–13], 2019.
- [87] Thorsten Auth, Dmitry A. Fedosov, and G. Gompper. Simulating membranes, vesicles, and cells. In Rumiana Dimova and Carlos Marques, editors, *The Giant Vesicle Book*, chapter 6, pages 169–193. CRC Taylor & Francis, Oxford, 2019.
- [88] Sebastian Hillringshaus, Anil K. Dasanna, Gerhard Gompper, and Dmitry A. Fedosov. Importance of erythrocyte deformability for the alignment of malaria parasite upon invasion. *Biophys. J.*, 117:1202–1214, 2019.
- [89] Wei Chien, Zunmin Zhang, Gerhard Gompper, and Dmitry A. Fedosov. Deformation and dynamics of erythrocytes govern their traversal through microfluidic devices with deterministic lateral displacement architecture. *Biomicrofluidics*, 13:044106 [1–12], 2019.
- [90] Ahmet Nihat Simsek, Andrea Bräutigam, Matthias D. Koch, Joshua Shaevitz, Yunfei Huang, Gerhard Gompper, and Benedikt Sabass. Substrate-rigidity dependent migration of an idealized twitching cell. *Soft Matter*, 15:6224–6236, 2019.
- [91] Stefan H. Holm, Zunmin Zhang, Jason P. Beech, Gerhard Gompper, Dmitry A. Fedosov, and Jonas O. Tegenfeldt. Microfluidic particle sorting in concentrated erythrocyte suspensions. *Phys. Rev. Applied*, 12:014051 [1–13], 2019.
- [92] Anil K. Dasanna, Dmitry Fedosov, Gerhard Gompper, and Ulrich S. Schwarz. State diagram for wall adhesion of red blood cells in shear flow: from crawling to flipping. *Soft Matter*, 15:5511–5520, 2019.
- [93] Felix Reichel, Johannes Mauer, Ahmad Ahsan Nawaz, Gerhard Gompper, Jochen Guck, and Dmitry A. Fedosov. High-throughput microfluidic characterization of erythrocyte shape and mechanical variability. *Biophys. J.*, 117:14–24, 2019.
- [94] Nirmalendu Ganai, Tobias Büscher, Gerhard Gompper, and Jens Elgeti. Mechanics of tissue competition: Interfaces stabilize coexistence. *New J. Phys.*, 21:063017 [1–8], 2019.
- [95] Aitor Martin-Gomez, Thomas Eisenstecken, Gerhard Gompper, and Roland G. Winkler. Active Brownian filaments with hydrodynamic interactions: Conformations and dynamics. *Soft Matter*, 15:3957–3969, 2019.

- [96] Shibabanda Das, Gerhard Gompper, and Roland G. Winkler. Local stress and pressure in an inhomogeneous system of spherical active Brownian particles. *Sci. Rep.*, 9:6608 [1–11], 2019.
- [97] S. Mahdijeh Mousavi, Gerhard Gompper, and Roland G. Winkler. Active Brownian ring polymers. *J. Chem. Phys.*, 150:064913 [1–12], 2019.
- [98] Zunmin Zhang, Wei Chien, Ewan Henry, Dmitry A. Fedosov, and Gerhard Gompper. Sharp-edged geometric obstacles in microfluidics promote deformability-based sorting of cells. *Phys. Rev. Fluids*, 4:024201 [1–18], 2019.
- [99] Yunfei Huang, Christoph Schell, Tobias B. Huber, Ahmet Nihat Simsek, Nils Hersch, Rudolf Merkel, Gerhard Gompper, and Benedikt Sabass. Traction force microscopy with optimized regularization and automated Bayesian parameter selection for comparing cells. *Sci. Rep.*, 9:539 [1–16], 2019.
- [100] Sebastian Rode, Jens Elgeti, and Gerhard Gompper. Sperm motility in modulated microchannels. *New J. Phys.*, 21:013016 [1–16], 2019.
- [101] Arvind Ravichandran, Özer Duman, Masoud Hoore, Guglielmo Saggiarato, Gerard A. Vliegthart, Thorsten Auth, and Gerhard Gompper. Chronology of microtubule streaming. *eLife*, 8:e39694 [1–22], 2019.
- [102] Thorsten Auth, Sabyasachi Dasgupta, and Gerhard Gompper. Interaction of particles and pathogens with biological membranes. In P. Bassereau and P. Sens, editors, *Physics of Biological Membranes*, pages 471–498. Springer, Heidelberg, 2018.
- [103] Jin Suk Myung, Felix Roosen-Runge, Roland G. Winkler, Gerhard Gompper, Peter Schurtenberger, and Anna Stradner. Weak shape anisotropy leads to non-monotonic crowding effects and impacts protein dynamics under physiologically relevant conditions. *J. Phys. Chem. B*, 122:12396–12402, 2018.
- [104] Mario Theers, Kai Qi, Elmar Westphal, Roland G. Winkler, and Gerhard Gompper. Clustering of microswimmers: Interplay of shape and hydrodynamics. *Soft Matter*, 14:8590–8603, 2018.
- [105] Johannes Mauer, Simon Mendez, Luca Lanotte, Franck Nicoud, Manouk Abkarian, Gerhard Gompper, and Dmitry A. Fedosov. Complex shapes and dynamics of red blood cells in shear flow. *Phys. Rev. Lett.*, 121:118103 [1–6], 2018.
- [106] Anil K. Dasanna, Ulrich S. Schwarz, Gerhard Gompper, and Dmitry A. Fedosov. Multiscale modeling of malaria-infected red blood cells. In Wanda Andreoni and Sidney Yip, editors, *Handbook of Materials Modeling*, volume 2 Applications: Current and Emerging Materials, pages 1–24. Springer, Cham, 2018.

- [107] Roland G. Winkler and Gerhard Gompper. Hydrodynamics in motile active matter. In Wanda Andreoni and Sidney Yip, editors, *Handbook of Materials Modeling*, volume 1 Methods: Theory and Modeling, pages 1–21. Springer, Cham, 2018.
- [108] Aitor Martin-Gomez, Gompper Gerhard, and Roland G. Winkler. Active Brownian filamentous polymers under shear flow. *Polymers*, 10:837 [1–18], 2018.
- [109] Clara Abaurrea Velasco, Masoud Abkenar, Gerhard Gompper, and Thorsten Auth. Collective behavior of self-propelled rods with quorum sensing. *Phys. Rev. E*, 98:022605 [1–11], 2018.
- [110] Masoud Hoore, Francois Yaya, Thomas Podgorski, Christian Wagner, Gerhard Gompper, and Dmitry A. Fedosov. Effect of spectrin network elasticity on the shapes of erythrocyte doublets. *Soft Matter*, 14:6278–6289, 2018.
- [111] Alexander Barbul, Karandeep Singh, Limor Horev-Azaria, Sabyasachi Dasgupta, Thorsten Auth, Rafi Korenstein, and Gerhard Gompper. Adsorption of nanoparticles on the cell surface: Effect of nanoparticle size on adsorption isotherms, cell shape and deformability of erythrocytes. *ACS Appl. Nano Mater.*, 1:3785–3799, 2018.
- [112] Özer Duman, Rolf E. Isele-Holder, Jens Elgeti, and Gerhard Gompper. Collective dynamics of self-propelled semiflexible filaments. *Soft Matter*, 14:4483–4494, 2018.
- [113] Qingfen Yu, Sameh Othman, Sabyasachi Dasgupta, Thorsten Auth, and Gerhard Gompper. Nanoparticles wrapping at non-spherical vesicles: curvatures at play. *Nanoscale*, 10:6445–6458, 2018.
- [114] Thomas Eisenstecken, Raphael Hornung, Roland G. Winkler, and Gerhard Gompper. Hydrodynamics of binary-fluid mixtures – an augmented multiparticle collision dynamics approach. *EPL*, 121:24003 [1–7], 2018.
- [115] G. Gompper, J. K. G. Dhont, J. Elgeti, D. A. Fedosov, S. Förster, M. P. Lettinga, C. Fahlke, and A. Offenhäusser, editors. *Physics of Life*, volume 158 of *Key Technologies*. Forschungszentrum Jülich, Jülich, 2018.
- [116] Raphael Hornung, Alexander Grünberger, Christoph Westerwalbesloh, Dietrich Kohlheyer, Gerhard Gompper, and Jens Elgeti. Quantitative modeling of nutrient-limited growth of bacterial colonies in microfluidic cultivation. *J. Royal Soc. Interface*, 15:20170713 [1–11], 2018.
- [117] Sunil Pratap Singh, Gerhard Gompper, and Roland G. Winkler. Steady-state sedimentation of ultrasoft colloids. *J. Chem. Phys.*, 148:084901 [1–9], 2018.

- [118] Masoud Hoore, Kathrin Rack, Dmitry A. Fedosov, and Gerhard Gompper. Flow-induced adhesion of shear-activated polymers to a substrate. *J. Phys.: Condens. Matter*, 30:064001 [1–12], 2018.
- [119] Shibbananda Das, Gerhard Gompper, and Roland G. Winkler. Confined active Brownian particles: Theoretical description of propulsion-induced accumulation. *New J. Phys.*, 20:015001 [1–17], 2018.
- [120] Shibbananda Das, Jonas Riest, Roland G. Winkler, Gerhard Gompper, Jan K. G. Dhont, and Gerhard Nägele. Clustering and dynamics of particles in dispersions with competing interactions: Theory and simulation. *Soft Matter*, 14:92–103, 2018.
- [121] Anoop Varghese, Gerhard Gompper, and Roland G. Winkler. Spatial correlations of hydrodynamic fluctuations in simple fluids under shear flow: A mesoscale simulation study. *Phys. Rev. E*, 96:062617 [1–6], 2017.
- [122] Gašper Kokot, Shibbananda Das, Roland G. Winkler, Gerhard Gompper, Igor S. Aronson, and Alexey Snezhko. Active turbulence in a gas of self-assembled spinners. *Proc. Natl. Acad. Sci. USA*, 114:12870–12875, 2017.
- [123] Guglielmo Saggiorato, Luis Alvarez, Jan F. Jikeli, U. Benjamin Kaupp, Gerhard Gompper, and Jens Elgeti. Sperm steer with second harmonics of the flagellar beat. *Nat. Commun.*, 8:1415 [1–9], 2017.
- [124] Kathrin Rack, Volker Huck, Masoud Hoore, Dmitry A. Fedosov, Stefan W. Schneider, and Gerhard Gompper. Margination and stretching of von Willebrand factor in the blood stream enable adhesion. *Sci. Rep.*, 7:14278 [1–12], 2017.
- [125] Brooke Huisman, Masoud Hoore, Gerhard Gompper, and Dmitry A. Fedosov. Modeling the cleavage of von Willebrand factor by ADAMTS13 protease in shear flow. *Med. Phys. Eng.*, 48:14–22, 2017.
- [126] Clara Abaurrea Velasco, Sepehr Dehghani Ghahnaviyeh, Hossein Nejat Pishkenari, Thorsten Auth, and Gerhard Gompper. Complex self-propelled rings: a minimal model for cell motility. *Soft Matter*, 13:5865–5876, 2017.
- [127] Arvind Ravichandran, Gerard A. Vliegenthart, Guglielmo Saggiorato, Thorsten Auth, and Gerhard Gompper. Enhanced dynamics of confined cytoskeletal filaments driven by asymmetric motors. *Biophys. J.*, 113:1121–1132, 2017.
- [128] Roland G. Winkler, Jens Elgeti, and Gerhard Gompper. Active polymers – emergent conformational and dynamical properties: A brief review. *J. Phys. Soc. Jpn.*, 86:101014 [1–14], 2017.

- [129] Thomas Eisenstecken, Ali Ghavami, Alexander Mair, Gerhard Gompper, and Roland G. Winkler. Conformational and dynamical properties of semiflexible polymers in the presence of active noise. *AIP Conference Proceedings*, 1871:050001 [1–9], 2017.
- [130] Sabyasachi Dasgupta, Thorsten Auth, and Gerhard Gompper. Nano- and microparticles at biological and fluid interfaces. *J. Phys. Condens. Matter*, 29:373003 [1–41], 2017.
- [131] Johannes Mauer, Matti Peltomäki, Simón Poblete, Gerhard Gompper, and Dmitry A. Fedosov. Static and dynamic light scattering by red blood cells: a numerical study. *PLoS ONE*, 12:e0176799 [1–19], 2017.
- [132] Thomas Eisenstecken, Gerhard Gompper, and Roland Winkler. Internal dynamics of semiflexible polymers with active noise. *J. Chem. Phys.*, 146:154903 [1–11], 2017.
- [133] Adam Wysocki, Roland G. Winkler, and Gerhard Gompper. Propagating interfaces in mixtures of active and passive Brownian particles. *New J. Phys.*, 18:123030 [1–9], 2016.
- [134] Saskia Bucciarelli, Jin Suk Myung, Bela Farago, Shibbananda Das, Gerard A. Vliegthart, Olaf Holderer, Roland G. Winkler, Peter Schurtenberger, Gerhard Gompper, and Anna Stradner. Dramatic influence of attractions on short-time protein diffusion under crowded conditions. *Sci. Adv.*, 2:e1601432 [1–8], 2016.
- [135] Jens Elgeti and Gerhard Gompper. Microswimmers near surfaces. *Eur. Phys. J. Special Topics*, 225:2333–2352, 2016.
- [136] Gerhard Gompper, Clemens Bechinger, Stephan Herminghaus, Rolf Isele-Holder, U. Benjamin Kaupp, Hartmut Löwen, Holger Stark, and Roland G. Winkler. Editorial: Microswimmers – from single particle motion to collective behavior. *Eur. Phys. J. Special Topics*, 225:2061–2064, 2016.
- [137] Luca Lanotte, Johannes Mauer, Simon Mendez, Dmitry A. Fedosov, Jean-Marc Fromental, Viviana Claveria, Franck Nicoud, Gerhard Gompper, and Manouk Abkarian. Red cells’ dynamic morphologies govern blood shear thinning under microcirculatory flow conditions. *Proc. Natl. Acad. Sci. USA*, 113:13289–13294, 2016.
- [138] Rolf Isele-Holder, Julia Jäger, Guglielmo Saggiorato, Jens Elgeti, and Gerhard Gompper. Dynamics of self-propelled filaments pushing a load. *Soft Matter*, 12:8495–8505, 2016.

- [139] Ewan Henry, Stefan H. Holm, Jason P. Beech, Jonas O. Tegenfeldt, Dmitry A. Fedosov, and Gerhard Gompper. Sorting cells by their dynamical properties. *Sci. Rep.*, 6:34375 [1–11], 2016.
- [140] Mario Theers, Elmar Westphal, Gerhard Gompper, and Roland G. Winkler. Modeling a spheroidal microswimmer and cooperative swimming in a narrow slit. *Soft Matter*, 12:7372–7385, 2016.
- [141] Thomas Eisenstecken, Gerhard Gompper, and Roland G. Winkler. Conformational properties of active semiflexible polymers. *Polymers*, 8:304 [1–19], 2016.
- [142] Nils Podewitz, Frank Jülicher, Gerhard Gompper, and Jens Elgeti. Interface dynamics of competing tissues. *New J. Phys.*, 18:083020 [1–9], 2016.
- [143] H. Turler, D. A. Fedosov, B. Audoly, T. Auth, N. Gov, C. Sykes, J.-F. Joanny, G. Gompper, and T. Betz. Equilibrium physics breakdown reveals the active nature of red blood cell flickering. *Nat. Phys.*, 12:513–519, 2016.
- [144] Gerhard Gompper and Dmitry A. Fedosov. Modeling microcirculatory blood flow: current state and future perspectives. *WIREs Systems Biology and Medicine*, 8:157–168, 2016.
- [145] Mario Theers, Elmar Westphal, Gerhard Gompper, and Roland G. Winkler. From local to hydrodynamic friction in Brownian motion: A multiparticle collision dynamics study. *Phys. Rev. E*, 93:032604 [1–12], 2016.
- [146] Kathrin Müller, Dmitry A. Fedosov, and Gerhard Gompper. Understanding particle margination in blood flow – a step toward optimized drug delivery systems. *Med. Eng. Phys.*, 38:2–10, 2016.
- [147] Christian Holm, Gerhard Gompper, and Ken A. Dill. Preface: Special topic on coarse graining of macromolecules, biopolymers, and membranes. *J. Chem. Phys.*, 143:242901 [1], 2015.
- [148] Zunmin Zhang, Ewan Henry, Gerhard Gompper, and Dmitry A. Fedosov. Behavior of rigid and deformable particles in deterministic lateral displacement devices with different post shapes. *J. Chem. Phys.*, 143:243145 [1–11], 2015.
- [149] Anoop Varghese, Chien-Cheng Huang, Roland G. Winkler, and Gerhard Gompper. Hydrodynamic correlation in shear flow: A multiparticle-collision-dynamics study. *Phys. Rev. E*, 92:053002 [1–8], 2015.
- [150] Jin Suk Myung, Roland G. Winkler, and Gerhard Gompper. Self-organization in suspensions of end-functionalized semiflexible polymer under shear flow. *J. Chem. Phys.*, 143:243117 [1–9], 2015.

- [151] G. Gompper, C. Bechinger, S. Herminghaus, R. Isele-Holder, U. B. Kaupp, H. Löwen, H. Stark, and R. G. Winkler, editors. *Microswimmers – from Single Particle Motion to Collective Behavior*, volume 110 of *Key Technologies*. Forschungszentrum Jülich, Jülich, 2015.
- [152] Jinglei Hu, Mingcheng Yang, Gerhard Gompper, and Roland G. Winkler. Modelling the mechanics and hydrodynamics of swimming E. coli. *Soft Matter*, 11:7867–7876, 2015.
- [153] Guglielmo Saggiorato, Jens Elgeti, Roland G. Winkler, and Gerhard Gompper. Conformations, hydrodynamic interactions and instabilities of sedimenting semi-flexible filaments. *Soft Matter*, 11:7337–7344, 2015.
- [154] Rolf E. Isele-Holder, Jens Elgeti, and Gerhard Gompper. Self-propelled worm-like filaments: Spontaneous spiral formation, structure, and dynamics. *Soft Matter*, 11:7181–7190, 2015.
- [155] Roland G. Winkler and Gerhard Gompper. Schwimmende Bakterien – Kontrollierte Bewegung von Mikroorganismen auf strukturierten Oberflächen. *Labor-praxis*, August-Heft:14–16, 2015.
- [156] Dmitry A. Fedosov, Ankush Sengupta, and Gerhard Gompper. Effect of fluid-colloid interactions on the mobility of a thermophoretic microswimmer in non-ideal fluids. *Soft Matter*, 11:6703–6715, 2015.
- [157] Roland G. Winkler, Adam Wysocki, and Gerhard Gompper. Virial pressure in systems of active Brownian particles. *Soft Matter*, 11:6680–6691, 2015.
- [158] Ulf D. Schiller, Jean Baptiste Fleury, Ralf Seemann, and Gerhard Gompper. Collective waves in dense and confined microfluidic droplet arrays. *Soft Matter*, 11:5850–5861, 2015.
- [159] Mingcheng Yang, Mario Theers, Jinglei Hu, Gerhard Gompper, Roland G. Winkler, and Marisol Ripoll. Effect of angular momentum conservation on hydrodynamic simulations of colloids. *Phys. Rev. E*, 92:013301 [1–9], 2015.
- [160] Antonio Lamura and Gerhard Gompper. Rheological properties of sheared vesicle and cell suspensions. *Procedia IUTAM*, 16:3–11, 2015.
- [161] Adam Wysocki, Jens Elgeti, and Gerhard Gompper. Giant adsorption of microswimmers: Duality of shape asymmetry and wall curvature. *Phys. Rev. E*, 91:050302(R) [1–6], 2015.
- [162] Jinglei Hu, Adam Wysocki, Roland G. Winkler, and Gerhard Gompper. Physical sensing of surface properties by microswimmers — directing bacterial motion via wall slip. *Sci. Rep.*, 5:9586 [1–7], 2015.

- [163] Jens Elgeti, Roland G. Winkler, and Gerhard Gompper. Physics of microswimmers – single particle motion and collective behavior: a review. *Rep. Prog. Phys.*, 78:056601 [1–50], 2015.
- [164] Dinar Katanov, Gerhard Gompper, and Dmitry A. Fedosov. Microvascular blood flow resistance: role of red blood cell migration and dispersion. *Microvasc. Res.*, 99:57–66, 2015.
- [165] G. Gompper. Der Weg zum schwimmenden Nanoroboter. *Spektrum der Wissenschaft*, Heft 4:84–91, 2015.
- [166] Godehard Sutmann, Johannes Grotendorst, Gerhard Gompper, and Dominik Marx, editors. *Computational Trends in Solvation and Transport in Liquids*, volume 28 of *IAS series*. Forschungszentrum Jülich, Jülich, 2015.
- [167] Jens Elgeti and Gerhard Gompper. Run-and-tumble dynamics of self-propelled particles in confinement. *EPL*, 109:58003 [1–6], 2015.
- [168] J. K. G. Dhont, G. Gompper, G. Meier, D. Richter, G. A. Vliegenthart, and R. Zorn, editors. *Functional Soft Matter*, volume 94 of *Key Technologies*. Forschungszentrum Jülich, Jülich, 2015.
- [169] Chien-Cheng Huang, Anoop Varghese, Gerhard Gompper, and Roland G. Winkler. Thermostats for non-equilibrium multiparticle collision dynamics simulations. *Phys. Rev. E*, 91:013310 [1–11], 2015.
- [170] Kathrin Müller, Dmitry A. Fedosov, and Gerhard Gompper. Smoothed dissipative particle dynamics with angular momentum conservation. *J. Comput. Phys.*, 281:301–315, 2015.
- [171] Shashi Thutupalli, Jean-Baptiste Fleury, Ulf Schiller, Gerhard Gompper, Stephan Herminghaus, and Ralf Seemann. Hydrodynamics mediated collective motions in populations of micro-droplets. In A. S. Mikhailov and G. Ertl, editors, *Engineering of Chemical Complexity II*, chapter 8, pages 125–148. World Scientific, Singapore, 2014.
- [172] Roland G. Winkler, Dmitry A. Fedosov, and Gerhard Gompper. Dynamical and rheological properties of soft-colloid suspensions. *Curr. Opin. Colloid Interface Sci.*, 19:594–610, 2014.
- [173] Matteo Gabba, Simón Poblete, Tobias Rosenkranz, Alexandros Katranidis, Daryan Kempe, Tina Züchner, Roland G. Winkler, Gerhard Gompper, and Jörg Fitter. Conformational state distributions and catalytically relevant dynamics of a hinge-bending enzyme studied by single-molecule fret. *Biophys. J.*, 107:1913–1923, 2014.

- [174] Farzaneh Taslimi, Gerhard Gompper, and Roland G. Winkler. Scaffold structures by telechelic rodlike polymers: Non-equilibrium structural and rheological properties under shear flow. *Macromolecules*, 47:6946–6954, 2014.
- [175] Sabyasachi Dasgupta, Marina Katava, Mohammed Faraj, Thorsten Auth, and Gerhard Gompper. Capillary assembly of microscale ellipsoidal, cuboidal, and spherical particles at interfaces. *Langmuir*, 30:11873–11882, 2014.
- [176] Simon Poblete, Adam Wysocki, Gerhard Gompper, and Roland G. Winkler. Hydrodynamics of discrete particle spherical colloids: A multiparticle collision dynamics simulation study. *Phys. Rev. E*, 90:033314 [1–13], 2014.
- [177] Sunil Singh, Chien-Cheng Huang, Elmar Westphal, Gerhard Gompper, and Roland Winkler. Hydrodynamic correlations and diffusion coefficient of star polymers in solution. *J. Chem. Phys.*, 141:084901 [1–9], 2014.
- [178] Andrea Costanzo, Jens Elgeti, Thorsten Auth, Gerhard Gompper, and Marisol Ripoll. Motility-sorting of self-propelled particles in microchannels. *EPL*, 107:36003 [1–6], 2014.
- [179] Francesca Santoro, Sabyasachi Dasgupta, Jan Schnitker, Thorsten Auth, Elmar Neumann, Gregory Panaitov, Gerhard Gompper, and Andreas Offenhäusser. Interfacing electrogenic cells with 3d nanoelectrodes: Position, shape, and size matter. *ACS nano*, 8:6713–6723, 2014.
- [180] Liang Hong, Melissa A. Sharp, Simon Poblete, Ralf Biehl, Michaela Zamponi, Noemi Szekely, Marie-Sousai Appavou, Roland G. Winkler, Rachel Nauss, Alexander Johs, Jerry M. Parks, Zheng Yi, Xiaolin Cheng, Liyuan Liang, Michael Ohl, Susan M. Miller, Dieter Richter, Gerhard Gompper, and Jeremy C. Smith. Structure and dynamics of a compact state of a multidomain protein, the mercuric ion reductase. *Biophys. J.*, 107:393–400, 2014.
- [181] Sabyasachi Dasgupta, Thorsten Auth, Nir Gov, Elizabeth S. Zuccala Eric G. Hanssen, Timothy J. Satchwell, David T. Riglar, Ashley M. Toye, Timo Betz, Jake Baum, and Gerhard Gompper. Membrane-wrapping contributions to malaria parasite invasion of the human erythrocyte. *Biophys. J.*, 107:43–54, 2014.
- [182] Jin Suk Myung, Farzaneh Taslimi, Roland G. Winkler, and Gerhard Gompper. Self-organized structures of attractive end-functionalized semiflexible polymer suspensions. *Macromolecules*, 47:4118–4125, 2014.
- [183] Jean Baptiste Fleury, Ulf D. Schiller, Shashi Thutupalli, Gerhard Gompper, and Ralf Seemann. Mode coupling phonons in one-dimensional microfluidic crystals. *New J. Phys.*, 16:063029 [1–17], 2014.

- [184] Dmitry A. Fedosov, Matti Peltomäki, and Gerhard Gompper. Deformation and dynamics of red blood cells in flow through cylindrical microchannels. *Soft Matter*, 10:4258–4267, 2014.
- [185] Kathrin Müller, Dmitry A. Fedosov, and Gerhard Gompper. Margination of micro- and nano-particles in blood flow and its effect on the efficiency of drug delivery. *Sci. Rep.*, 4:4871 [1–8], 2014.
- [186] Dmitry A. Fedosov and Gerhard Gompper. White blood cell margination in microcirculation. *Soft Matter*, 10:2961–2970, 2014.
- [187] Dmitry A. Fedosov, Hiroshi Noguchi, and Gerhard Gompper. Multiscale modeling of blood flow: From single cells to blood rheology. *Biomech. Model. Mechanobiol.*, 13:239–258, 2014.
- [188] D.A. Head, W.J. Briels, and Gerhard Gompper. Non-equilibrium structure and dynamics in a microscopic model of thin-film active gels. *Phys. Rev. E*, 89:032705 [1–11], 2014.
- [189] Adam Wysocki, Roland G. Winkler, and Gerhard Gompper. Cooperative motion of active Brownian spheres in three-dimensional dense suspensions. *EPL*, 105:48004 [1–6], 2014.
- [190] Luis Alvarez, Benjamin M. Friedrich, Gerhard Gompper, and U. Benjamin Kaupp. The computational sperm cell. *Trends Cell Biol.*, 24:198–207, 2014.
- [191] Sabyasachi Dasgupta, Thorsten Auth, and Gerhard Gompper. Shape and orientation matter for the cellular uptake of nonspherical particles. *Nano Lett.*, 14:687–693, 2014.
- [192] Yingzi Yang, Feng Qiu, and Gerhard Gompper. Self-organized vortices of circling self-propelled particles and curved active flagella. *Phys. Rev. E*, 89:012720 [1–14], 2014.
- [193] E. Westphal, S. P. Singh, C.-C. Huang, G. Gompper, and R. G. Winkler. Multiparticle collision dynamics: GPU accelerated particle-based mesoscale hydrodynamic simulations. *Comp. Phys. Comm.*, 185:495–503, 2014.
- [194] Masoud Abkenar, Kristian Marx, Thorsten Auth, and Gerhard Gompper. Collective behavior of penetrable self-propelled rods in two dimensions. *Phys. Rev. E*, 88:062314 [1–11], 2013.
- [195] R. G. Winkler, S. P. Singh, C.-C. Huang, D. A. Fedosov, K. Mussawisade, A. Chatterji, M. Ripoll, and G. Gompper. Mesoscale hydrodynamics simulations of particle suspensions under shear flow: From hard to ultrasoft colloids. *Eur. Phys. J. Special Topics*, 222:2773–2786, 2013.

- [196] Sunil P. Singh, Apratim Chatterji, Gerhard Gompper, and Roland G. Winkler. Dynamical and rheological behavior of ultra-soft colloids under shear flow. *Macromolecules*, 46:8026–8036, 2013.
- [197] Shang Yik Reigh, Roland G. Winkler, and Gerhard Gompper. Synchronization, slippage, and unbundling of driven helical flagella. *PLoS ONE*, 8:e70868 [1–7], 2013.
- [198] Matti Peltomäki and Gerhard Gompper. Sedimentation of single red blood cells. *Soft Matter*, 9:8346–8358, 2013.
- [199] Thorsten Auth and Gerhard Gompper. Fluctuation pressure of biomembranes in planar confinement. *Phys. Rev. E*, 88:010701(R) [1–4], 2013.
- [200] Hayato Shiba, Hiroshi Noguchi, and Gerhard Gompper. Structure formation of surfactant membranes under shear flow. *J. Chem. Phys.*, 139:014702 [1–11], 2013.
- [201] David A. Head, Wim J. Briels, and Gerhard Gompper. Spindles and active vortices. In P. Kraikivski, editor, *Trends in Biophysics: From Cell Dynamics Toward Multicellular Growth Phenomena*, pages 25–47. CRC Press, Taylor & Francis, Boca Raton, 2013.
- [202] Alexander Winkler, Peter Virnau, Kurt Binder, Roland G. Winkler, and Gerhard Gompper. Phase separation in colloidal suspensions by collective growth of domains. In A. Bode, T. Lippert, and M. M. Resch, editors, *inSiDE — Innovatives Supercomputing in Deutschland*, volume 11/1, pages 30–35. The German National Supercomputing Centers HLRS, LRZ, NIC, Stuttgart, 2013.
- [203] Sabyasachi Dasgupta, Thorsten Auth, and Gerhard Gompper. Wrapping of ellipsoidal nano-particles by fluid membranes. *Soft Matter*, 9:5473–5482, 2013.
- [204] Simona Maccarrone, Dmytro V. Byelov, Thorsten Auth, Jürgen Allgaier, Henrich Frielinghaus, Gerhard Gompper, and Dieter Richter. Confinement effects in block copolymer modified bicontinuous microemulsions. *J. Phys. Chem. B*, 117:5623–5632, 2013.
- [205] Antonio Lamura and Gerhard Gompper. Dynamics and rheology of vesicle suspensions in wall-bounded shear flow. *EPL*, 102:28004 [1–6], 2013.
- [206] Chien-Cheng Huang, Gerhard Gompper, and Roland G. Winkler. Effect of hydrodynamic correlations on the dynamics of polymers in dilute solution. *J. Chem. Phys.*, 138:144902 [1–15], 2013.
- [207] Jens Elgeti and Gerhard Gompper. Emergence of metachronal waves in cilia arrays. *Proc. Natl. Acad. Sci. USA*, 110:4470–4475, 2013.

- [208] Jens Elgeti and Gerhard Gompper. Wall accumulation of self-propelled spheres. *EPL*, 101:48003 [1–6], 2013.
- [209] Alexander Winkler, Peter Virnau, Kurt Binder, Roland G. Winkler, and Gerhard Gompper. Hydrodynamic mechanisms of spinodal decomposition in confined colloid-polymer mixtures. *J. Chem. Phys.*, 138:054901 [1–14], 2013.
- [210] Jean Baptiste Fleury, Ulf D. Schiller, Shashi Thutupalli, Gerhard Gompper, and Ralf Seemann. Microfluidic method to specifically excite transversal phonon modes in one-dimensional microfluidic crystals. In *Proceedings of the 3rd European Conference on Microfluidics μ FLU 2012*, pages μ FLU12–185, Heidelberg, 2012.
- [211] Chien-Cheng Huang, Gerhard Gompper, and Roland G. Winkler. Non-equilibrium properties of semidilute polymer solutions under shear flow. *J. Phys. Conf. Series*, 392:012003 [1–14], 2012.
- [212] Alexander Winkler, Peter Virnau, Kurt Binder, Roland G. Winkler, and Gerhard Gompper. Confinement-induced screening of hydrodynamic interactions and spinodal decomposition: Multiscale simulations of colloid-polymer mixtures. *EPL*, 100:46003 [1–6], 2012.
- [213] Chien-Cheng Huang, Gerhard Gompper, and Roland G. Winkler. Hydrodynamic correlations in multiparticle collision dynamics. *Phys. Rev. E*, 86:056711 [1–10], 2012.
- [214] Dmitry A. Fedosov and Gerhard Gompper. Simulating blood cells and blood flow. In A. Bode, T. Lippert, and M. M. Resch, editors, *inSiDE — Innovatives Supercomputing in Deutschland*, volume 10/2, pages 28–33. The German National Supercomputing Centers HLRS, LRZ, NIC, Stuttgart, 2012.
- [215] Jayson Paulose, Gerard A. Vliegenthart, Gerhard Gompper, and David R. Nelson. Fluctuating shells under pressure. *Proc. Natl. Acad. Sci. USA*, 109:19551–19556, 2012.
- [216] Sunil P. Singh, Dmitry A. Fedosov, Apratim Chatterji, Roland G. Winkler, and Gerhard Gompper. Conformational and dynamical properties of ultra-soft colloids in semi-dilute solution under shear flow. *J. Phys. Condens. Matter*, 24:464103 [1–11], 2012.
- [217] Raghunath Chelakkot, Roland G. Winkler, and Gerhard Gompper. Flow-induced helical coiling of semiflexible polymers in structured microchannels. *Phys. Rev. Lett.*, 109:178101 [1–5], 2012.

- [218] J. Liam McWhirter, Hiroshi Noguchi, and Gerhard Gompper. Ordering and arrangement of deformed red blood cells in flows through microcapillaries. *New J. Phys.*, 14:085026 [1–23], 2012.
- [219] Chien-Cheng Huang, Gerhard Gompper, and Roland G. Winkler. Non-equilibrium relaxation and tumbling times of semidilute polymer solutions. *J. Phys. Condens. Matter*, 24:284131 [1–9], 2012.
- [220] B. Verberck, J. Cambedouzou, G. A. Vliegenthart, G. Gompper, and P. Launois. Monte Carlo studies of C_{60} - and C_{70} -peapods. *Fuller. Nanotub. Car. N.*, 20:371–377, 2012.
- [221] Matti Peltomäki, Gerhard Gompper, and Daniel M. Kroll. Scattering of bicontinuous microemulsions and sponge phases. *J. Chem. Phys.*, 136:134708 [1–13], 2012.
- [222] Shang Yik Reigh, Roland G. Winkler, and Gerhard Gompper. Synchronization and bundling of bacterial flagella. *Soft Matter*, 8:4363–4372, 2012.
- [223] Dmitry A. Fedosov, Sunil P. Singh, Apratim Chatterji, Roland G. Winkler, and Gerhard Gompper. Semidilute solutions of ultrasoft colloids under shear flow. *Soft Matter*, 8:4109–4120, 2012.
- [224] Johannes Grotendorst, Godehard Sutmann, Gerhard Gompper, and Dominik Marx, editors. *Hierarchical Methods for Dynamics in Complex Molecular Systems*, volume 10 of *IAS series*. Forschungszentrum Jülich, Jülich, 2012.
- [225] Dmitry A. Fedosov and Gerhard Gompper. Mesoscale simulations of human blood flow: From red blood cell elasticity and interactions to blood rheology. In K. Binder, G. Münster, and M. Kremer, editors, *NIC Symposium 2012*, volume 45 of *NIC series*, pages 97–104, Jülich, 2012. Neumann Institute for Computing.
- [226] Martin J. Greenall and Gerhard Gompper. Simple and complex micelles in amphiphilic mixtures: a coarse-grained mean-field study. *Macromolecules*, 45:525–535, 2012.
- [227] Dmitry A. Fedosov, Julia Fornleitner, and Gerhard Gompper. Margination of white blood cells in microcapillary flow. *Phys. Rev. Lett.*, 108:028104 [1–5], 2012.
- [228] David A. Head, Wim J. Briels, and Gerhard Gompper. Spindles and active vortices in a model of confined filament-motor mixtures. *BMC Biophysics*, 4:18 [1–11], 2011.

- [229] J. Liam McWhirter, Hiroshi Noguchi, and Gerhard Gompper. Deformation and clustering of red blood cells in microcapillary flows. *Soft Matter*, 7:10967–10977, 2011.
- [230] Shichen Ji, Run Jiang, Roland G. Winkler, and Gerhard Gompper. Mesoscale hydrodynamics modeling of a colloid in shear-thinning viscoelastic fluids under shear flow. *J. Chem. Phys.*, 135:134116 [1–11], 2011.
- [231] Sunil P. Singh, Roland G. Winkler, and Gerhard Gompper. Non-equilibrium forces between dragged ultrasoft colloids. *Phys. Rev. Lett.*, 107:158301 [1–5], 2011.
- [232] Ingo O. Götze and Gerhard Gompper. Dynamic self-assembly and directed flow of rotating colloids in microchannels. *Phys. Rev. E*, 84:031404 [1–11], 2011.
- [233] Dmitry A. Fedosov, Wenxiao Pan, Bruce Caswell, Gerhard Gompper, and George Em Karniadakis. Predicting blood rheology in silico. *Proc. Natl. Acad. Sci. USA*, 108:11772–11777, 2011.
- [234] S. Ramachandran, S. Komura, K. Seki, and G. Gompper. Dynamics of a polymer chain confined in a membrane. *Eur. Phys. J. E*, 34:46 [1–13], 2011.
- [235] Jens Elgeti, U. Benjamin Kaupp, and Gerhard Gompper. Response to comments on article: Hydrodynamics of sperm cells near surfaces. *Biophys. J.*, 100:2321–2324, 2011.
- [236] G. A. Vliegenthart and G. Gompper. Compression, crumpling and collapse of spherical shells and capsules. *New J. Phys.*, 13:045020 [1–24], 2011.
- [237] Ragunath Chelakkot, Roland G. Winkler, and Gerhard Gompper. Semiflexible polymer conformation, distribution and migration in microcapillary flows. *J. Phys. Condens. Matter*, 23:184117 [1–13], 2011.
- [238] Martin J. Greenall and Gerhard Gompper. Bilayers in amphiphilic mixtures connected by threadlike micelles: a self-consistent field theory study. *Langmuir*, 27:3416–3423, 2011.
- [239] David A. Head, Gerhard Gompper, and Wim J. Briels. Microscopic basis for pattern formation and anomalous transport in two-dimensional active gels. *Soft Matter*, 7:3116–3126, 2011.
- [240] C.-C. Huang, G. Sutmann, G. Gompper, and R. G. Winkler. Tumbling of polymers in semidilute solution under shear flow. *EPL*, 93:54004 [1–6], 2011.
- [241] M. Kerscher, P. Busch, S. Mattauch, H. Frielinghaus, D. Richter, M. Belushkin, and G. Gompper. Bicontinuous microemulsions near a planar hydrophilic surface. *Phys. Rev. E*, 83:030401(R) [1–4], 2011.

- [242] B. Verberck, J. Cambedouzou, G. A. Vliegenthart, G. Gompper, and P. Launois. A Monte Carlo study of molecular motion in C70@SWCNT nanopeapods. *Carbon*, 49:2007–2021, 2011.
- [243] J. K. G. Dhont, G. Gompper, P. Lang, D. Richter, M. Ripoll, D. Willbold, and R. Zorn, editors. *Macromolecular Systems in Soft and Living Matter*, volume 20 of *Key Technologies*. Forschungszentrum Jülich, Jülich, 2011.
- [244] Ingo O. Götze and Gerhard Gompper. Flow generation by rotating colloids in planar microchannels. *EPL*, 92:64003 [1–6], 2010.
- [245] Chien-Cheng Huang, Roland G. Winkler, Godehard Sutmann, and Gerhard Gompper. Semidilute polymer solutions at equilibrium and under shear flow. *Macromolecules*, 43:10107–10116, 2010.
- [246] Ingo O. Götze and Gerhard Gompper. Mesoscale simulations of hydrodynamic squirmer interactions. *Phys. Rev. E*, 82:041921 [1–9], 2010.
- [247] Theodore W. Burkhardt, Yingzi Yang, and Gerhard Gompper. Fluctuations of a long, semiflexible polymer in a narrow channel. *Phys. Rev. E*, 82:041801 [1–9], 2010.
- [248] Yingzi Yang, Vincent Marceau, and Gerhard Gompper. Swarm behavior of self-propelled rods and swimming flagella. *Phys. Rev. E*, 82:031904 [1–13], 2010.
- [249] M. P. Lettinga, J. K. G. Dhont, Z. Zhang, S. Messlinger, and G. Gompper. Hydrodynamic interactions in rod suspensions with orientational ordering. *Soft Matter*, 6:4556–4562, 2010.
- [250] Jens Elgeti, U. Benjamin Kaupp, and Gerhard Gompper. Hydrodynamics of sperm cells near surfaces. *Biophys. J.*, 99:1018–1026, 2010.
- [251] Raghunath Chelakkot, Roland G. Winkler, and Gerhard Gompper. Migration of semiflexible polymers in microchannel flow. *EPL*, 91:14001 [1–6], 2010.
- [252] S. Ramachandran, S. Komura, and G. Gompper. Effects of an embedding bulk fluid on phase separation dynamics in a thin liquid film. *EPL*, 89:56001 [1–6], 2010.
- [253] Godehard Sutmann, Chien-Cheng Huang, Roland G. Winkler, and G. Gompper. Semidilute polymer solutions under shear flow. In G. Münster, D. Wolf, and M. Kremer, editors, *NIC Symposium 2010*, volume 44 of *NIC series*, pages 287–294, Jülich, 2010. Neumann Institute for Computing.
- [254] Hiroshi Noguchi, Gerhard Gompper, Lothar Schmid, Achim Wixforth, and Thomas Franke. Dynamics of fluid vesicles in flow through structured microchannels. *EPL*, 89:28002 [1–6], 2010.

- [255] Atefeh Khoshnood, Hiroshi Noguchi, and Gerhard Gompper. Lipid membranes with transmembrane proteins in shear flow. *J. Chem. Phys.*, 132:025101 [1–10], 2010.
- [256] Adam Wysocki, C. Patrick Royall, Roland G. Winkler, Gerhard Gompper, Hajime Tanaka, Alfons van Blaaderen, and Hartmut Löwen. Multi-particle-collision dynamics simulations of sedimenting colloidal dispersions in confinement. *Faraday Discuss.*, 144:245–252, 2010.
- [257] C. C. Huang, A. Chatterji, G. Sutmann, G. Gompper, and R. G. Winkler. Cell-level canonical sampling by velocity scaling for multiparticle collision dynamics simulations. *J. Comput. Phys.*, 229:168–177, 2010.
- [258] Thorsten Auth and Gerhard Gompper. Budding and vesiculation induced by conical membrane inclusions. *Phys. Rev. E*, 80:031901 [1–10], 2009.
- [259] Sebastian Messlinger, Benjamin Schmidt, Hiroshi Noguchi, and Gerhard Gompper. Dynamical regimes and hydrodynamic lift of viscous vesicles under shear. *Phys. Rev. E*, 80:011901 [1–12], 2009.
- [260] Bart Verberck, Gerard A. Vliegenthart, and Gerhard Gompper. Orientational ordering in solid c_{60} fullerene-cubane. *J. Chem. Phys.*, 130:154510 [1–14], 2009.
- [261] Maxim Belushkin and Gerhard Gompper. Twist grain boundaries in cubic surfactant phases. *J. Chem. Phys.*, 130:134712 [1–10], 2009.
- [262] J. Liam McWhirter, Hiroshi Noguchi, and Gerhard Gompper. Flow-induced clustering and alignment of red blood cells in microchannels. *Proc. Natl. Acad. Sci. USA*, 106:6039–6043, 2009.
- [263] Adam Wysocki, C. Patrick Royall, Roland G. Winkler, Gerhard Gompper, Hajime Tanaka, Alfons van Blaaderen, and Hartmut Löwen. Direct observation of hydrodynamic instabilities in driven non-uniform colloidal dispersions. *Soft Matter*, 5:1340–1344, 2009.
- [264] J. Elgeti and G. Gompper. Self-propelled rods near surfaces. *EPL*, 85:38002 [1–6], 2009.
- [265] G. Gompper, T. Ihle, D. M. Kroll, and R. G. Winkler. Multi-particle collision dynamics – a particle-based mesoscale simulation approach to the hydrodynamics of complex fluids. *Adv. Polym. Sci.*, 221:1–87, 2009.
- [266] Yingzi Yang, Jens Elgeti, and Gerhard Gompper. Cooperation of sperm in two dimensions: Synchronization, attraction and aggregation through hydrodynamic interactions. *Phys. Rev. E*, 78:061903 [1–9], 2008.

- [267] B. Verberck, V. Heresanu, S. Rouzière, J. Cambedouzou, P. Launois, E. Kováts, S. Pekker, G. A. Vliegenthart, K. H. Michel, and G. Gompper. Fullerene-cubane: X-ray scattering experiments and Monte Carlo simulations. *Fuller. Nanotub. Car. N.*, 16:293–300, 2008.
- [268] M. Ripoll, P. Holmqvist, R. G. Winkler, G. Gompper, J. K. G. Dhont, and M. P. Lettinga. Attractive colloidal rods in shear flow. *Phys. Rev. Lett.*, 101:168302 [1–4], 2008.
- [269] M. Ripoll, R. G. Winkler, K. Mussawisade, and G. Gompper. Mesoscale hydrodynamics simulations of attractive rod-like colloids in shear flow. *J. Phys. Condens. Matter*, 20:404209 [1–11], 2008.
- [270] G. Gompper and M. Schick, editors. *Soft Matter – Lipid Bilayers and Red Blood Cells*, volume 4. Wiley-VCH, Weinheim, 2008.
- [271] L. Cannavacciuolo, R. G. Winkler, and G. Gompper. Mesoscale simulations of polymer dynamics in microchannel flows. *EPL*, 83:34007 [1–7], 2008.
- [272] H. Noguchi and G. Gompper. Transport coefficients of off-lattice mesoscale-hydrodynamics simulation techniques. *Phys. Rev. E*, 78:016706 [1–12], 2008.
- [273] G. Gompper, J. K. G. Dhont, and D. Richter. Editorial: A unified view of soft matter systems? *Eur. Phys. J. E*, 26:1–2, 2008.
- [274] Reimar Finken, Antonio Lamura, Udo Seifert, and Gerhard Gompper. Two-dimensional fluctuating vesicles in linear shear flow. *Eur. Phys. J. E*, 25:309–321, 2008.
- [275] Yu-Guo Tao, Ingo O. Götze, and Gerhard Gompper. Multi-particle collision dynamics modeling of viscoelastic fluids. *J. Chem. Phys.*, 128:144902 [1–12], 2008.
- [276] J. K. G. Dhont, G. Gompper, G. Nägele, D. Richter, and R. G. Winkler, editors. *Soft Matter — From Synthetic to Biological Materials*, volume 1 of *Key Technologies*. Forschungszentrum Jülich, Jülich, 2008.
- [277] J. Elgeti and G. Gompper. Hydrodynamics of active mesoscopic systems. In G. Münster, D. Wolf, and M. Kremer, editors, *NIC Symposium 2008*, volume 39 of *NIC series*, pages 53–61, Jülich, 2008. Neumann Institute for Computing.
- [278] G. A. Vliegenthart and G. Gompper. Mechanical properties of icosahedral virus capsids. *J. Computer-Aided Materials Design*, 14:111–119, 2007.
- [279] Ingo O. Götze, Hiroshi Noguchi, and Gerhard Gompper. Relevance of angular-momentum conservation in mesoscale hydrodynamics simulations. *Phys. Rev. E*, 76:046705 [1–9], 2007.

- [280] M. Ripoll, R. G. Winkler, and G. Gompper. Hydrodynamic screening of star polymers in shear flow. *Eur. Phys. J. E*, 23:349–354, 2007.
- [281] Hiroshi Noguchi and Gerhard Gompper. Transport coefficients of dissipative particle dynamics with finite time step. *EPL*, 79:36002 [1–6], 2007.
- [282] Yingzi Yang, Theodore W. Burkhardt, and Gerhard Gompper. Free energy and extension of a semiflexible polymer in cylindrical confining geometries. *Phys. Rev. E*, 76:011804 [1–7], 2007.
- [283] T. Kohyama and G. Gompper. Defect scars on flexible surfaces with crystalline order. *Phys. Rev. Lett.*, 98:198101 [1–4], 2007.
- [284] H. Noguchi and G. Gompper. Swinging and tumbling of fluid vesicles in shear flow. *Phys. Rev. Lett.*, 98:128103 [1–4], 2007.
- [285] H. Noguchi, N. Kikuchi, and G. Gompper. Particle-based mesoscale hydrodynamic techniques. *EPL*, 78:10005 [1–5], 2007.
- [286] G. Gompper and M. Schick, editors. *Soft Matter – Colloidal Order: Entropic and Surface Forces*, volume 3. Wiley-VCH, Weinheim, 2007.
- [287] H. Frielinghaus, S. Maccarrone, D. Byelov, J. Allgaier, D. Richter, T. Auth, and G. Gompper. Sans studies of confined diblock copolymers in microemulsions. *Physica B*, 385-386:738–741, 2006.
- [288] H. Noguchi and G. Gompper. Dynamics of vesicle self-assembly and dissolution. *J. Chem. Phys.*, 125:164908 [1–13], 2006.
- [289] G. Vliegenthart and G. Gompper. Mechanical properties of icosahedral virus capsids. In Peter Gumbsch, editor, *Multiscale Materials Modeling*, pages 615–621, Stuttgart, 2006. Fraunhofer IRB Verlag.
- [290] N. A. Denesyuk and G. Gompper. Mixing a and b homopolymers with ac diblock copolymers: Phase behaviour of asymmetric polymer blends. *Macromolecules*, 39:5497–5511, 2006.
- [291] G. Vliegenthart and G. Gompper. Mechanical deformation of spherical viruses with icosahedral symmetry. *Biophys. J.*, 91:834–841, 2006.
- [292] M. Ripoll, R. G. Winkler, and G. Gompper. Star polymers in shear flow. *Phys. Rev. Lett.*, 96:188302 [1–4], 2006.
- [293] S. Blügel, G. Gompper, E. Koch, H. Müller-Krumbhaar, R. Spatschek, and R. G. Winkler, editors. *Computational Condensed Matter Physics*, volume 32 of *Matter and Materials*. Forschungszentrum Jülich, Jülich, 2006.

- [294] G. Vliegenthart and G. Gompper. Forced crumpling of self-avoiding elastic sheets. *Nature Materials*, 5:216–221, 2006.
- [295] H. Noguchi and G. Gompper. Meshless membrane model based on the moving least-square method. *Phys. Rev. E*, 73:021903 [1–12], 2006.
- [296] G. Gompper and M. Schick. An introduction to soft matter. In G. Gompper and M. Schick, editors, *Soft Matter – Polymer Melts and Mixtures*, volume 1, pages 1–16. Wiley-VCH, Weinheim, 2005.
- [297] G. Gompper and M. Schick, editors. *Soft Matter – Complex Colloidal Dispersions*, volume 2. Wiley-VCH, Weinheim, 2005.
- [298] G. Gompper and M. Schick, editors. *Soft Matter – Polymer Melts and Mixtures*, volume 1. Wiley-VCH, Weinheim, 2005.
- [299] H. Noguchi and G. Gompper. Vesicle dynamics in shear and capillary flows. *J. Phys.: Condens. Matter*, 17:S3439–S3444, 2005.
- [300] K. Mussawisade, M. Ripoll, R. G. Winkler, and G. Gompper. Dynamics of polymers in a particle-based mesoscopic solvent. *J. Chem. Phys.*, 123:144905 [1–11], 2005.
- [301] H. Noguchi and G. Gompper. Shape transitions of fluid vesicles and red blood cells in capillary flows. *Proc. Natl. Acad. Sci. USA*, 102:14159–14164, 2005.
- [302] T. Auth and G. Gompper. Fluctuation spectrum of membranes with anchored linear and star polymers. *Phys. Rev. E*, 72:031904 [1–12], 2005.
- [303] R. G. Winkler, M. Ripoll, K. Mussawisade, and G. Gompper. Simulation of complex fluids by multi-particle-collision dynamics. *Comp. Phys. Comm.*, 169:326–330, 2005.
- [304] M. Ripoll, K. Mussawisade, R. G. Winkler, and G. Gompper. Dynamic regimes of fluids simulated by multi-particle-collision dynamics. *Phys. Rev. E*, 72:016701 [1–14], 2005.
- [305] H. Noguchi and G. Gompper. Dynamics of fluid vesicles in shear flow: Effect of membrane viscosity and thermal fluctuations. *Phys. Rev. E*, 72:011901 [1–14], 2005.
- [306] E. Allahyarov, G. Gompper, and H. Löwen. DNA condensation and redissolution: Interaction between overcharged DNA molecules. *J. Phys.: Condens. Matter*, 17:S1827–S1840, 2005.
- [307] S. Schneider and G. Gompper. Shapes of crystalline domains on spherical fluid vesicles. *Europhys. Lett.*, 70:136–142, 2005.

- [308] H. Noguchi and G. Gompper. Fluid vesicles with viscous membranes in shear flow. *Phys. Rev. Lett.*, 93:258102 [1–4], 2004.
- [309] E. Allahyarov, H. Löwen, and G. Gompper. Condensation and redissolution of DNA induced by multivalent counterions. *Europhys. Lett.*, 68:894–900, 2004.
- [310] A. Lamura, T. W. Burkhardt, and G. Gompper. Helical polymer in cylindrical confining geometries. *Phys. Rev. E*, 70:051804 [1–7], 2004.
- [311] M. Ripoll, K. Mussawisade, R. G. Winkler, and G. Gompper. Low-reynolds-number hydrodynamics of complex fluids by multi-particle-collision dynamics. *Europhys. Lett.*, 68:106–112, 2004.
- [312] R. G. Winkler, K. Mussawisade, M. Ripoll, and G. Gompper. Rodlike colloids and polymers in shear flow: A multiparticle-collision dynamics study. *J. Phys.: Condens. Matter*, 16:S3941–S3954, 2004.
- [313] G. Gompper and D. M. Kroll. Triangulated-surface models of fluctuating membranes. In D. R. Nelson, T. Piran, and S. Weinberg, editors, *Statistical Mechanics of Membranes and Surfaces*, chapter 12, pages 359–426. World Scientific, Singapore, 2nd edition, 2004.
- [314] E. Allahyarov, G. Gompper, and H. Löwen. Attraction between DNA molecules mediated by multivalent ions. *Phys. Rev. E*, 69:041904 [1–13], 2004.
- [315] G. Gompper, U. B. Kaupp, J. K. G. Dhont, D. Richter, and R. G. Winkler, editors. *Physics meets Biology — From Soft Matter to Cell Biology*, volume 19 of *Matter and Materials*. Forschungszentrum Jülich, Jülich, 2004.
- [316] T. Kohyama, D. M. Kroll, and G. Gompper. Budding of crystalline domains in fluid membranes. *Phys. Rev. E*, 68:061905 [1–15], 2003.
- [317] E. Allahyarov, H. Löwen, and G. Gompper. Adsorption of mono- and multivalent cat- and anions on DNA molecules. *Phys. Rev. E*, 68:061903 [1–13], 2003.
- [318] T. Auth and G. Gompper. Self-avoiding linear and star polymers anchored to membranes. *Phys. Rev. E*, 68:051801 [1–6], 2003.
- [319] H.-G. Döbereiner, G. Gompper, C. Haluska, D. M. Kroll, P. G. Petrov, and K. A. Riske. Advanced flicker spectroscopy of fluid membranes. *Phys. Rev. Lett.*, 91:048301, 2003.
- [320] G. Gompper, J. K. G. Dhont, and D. Richter. Aktuelle Forschung an Weicher Materie: Eine Welt zwischen Fest und Flüssig. *Physik in unserer Zeit*, 34:19–25, 2003.

- [321] G. Gompper, J. K. G. Dhont, and D. Richter. Was ist Weiche Materie? Komplexe Materialien auf mesoskopischer Skala. *Physik in unserer Zeit*, 34:12–18, 2003.
- [322] A. Lamura and G. Gompper. Numerical study of the flow around a cylinder using multi-particle collision dynamics. *Eur. Phys. J. E*, 9:477–485, 2002.
- [323] M. Mihailescu, M. Monkenbusch, H. Endo, J. Allgaier, G. Gompper, J. Stellbrink, D. Richter, B. Jakobs, T. Sottmann, and B. Farago. Neutron spin-echo investigations of the microemulsion dynamics in bicontinuous, lamellar and droplet phases. *Appl. Phys. A*, 74:S414–S417, 2002.
- [324] H. Endo, J. Allgaier, M. Mihailescu, M. Monkenbusch, G. Gompper, D. Richter, B. Jakobs, T. Sottmann, and R. Strey. Amphiphilic block copolymers as efficiency boosters in microemulsions: a sans investigation of the role of polymers. *Appl. Phys. A*, 74:S392–S395, 2002.
- [325] U. S. Schwarz and G. Gompper. Bicontinuous surfaces in self-assembling amphiphilic systems. In K. R. Mecke and D. Stoyan, editors, *Morphology of Condensed Matter: Physics and Geometry of Spatially Complex Systems*, volume 600 of *Lecture Notes in Physics*, pages 107–151. Springer, Berlin, 2002.
- [326] C. K. Haluska, W. T. Gózdź, H.-G. Döbereiner, S. Förster, and G. Gompper. Giant hexagonal superstructures in diblock copolymer membranes. *Phys. Rev. Lett.*, 89:238302 [1–4], 2002.
- [327] M. Müller and G. Gompper. Elastic properties of polymer interfaces: Aggregation of pure diblock, mixed diblock, and triblock copolymers. *Phys. Rev. E*, 66:041805 [1–13], 2002.
- [328] T. Schilling and G. Gompper. Wetting in ternary mixtures – with and without amphiphiles. *J. Chem. Phys.*, 117:7284–7294, 2002.
- [329] W. T. Gózdź and G. Gompper. Phase behavior of two-component membranes. *Coll. Surf. A*, 208:241–251, 2002.
- [330] E. Allahyarov and G. Gompper. Mesoscopic solvent simulations: Multi-particle-collision dynamics of three-dimensional flows. *Phys. Rev. E*, 66:036702 [1–9], 2002.
- [331] G. Gompper and D. M. Kroll. The freezing transition of flexible membranes. *Europhys. Lett.*, 58:60–66, 2002.
- [332] J. K. G. Dhont, G. Gompper, and D. Richter, editors. *Soft Matter — Complex Materials on Mesoscopic Scales*, volume 10 of *Matter and Materials*. Forschungszentrum Jülich, Jülich, 2002.

- [333] G. Gompper, H. Endo, M. Mihailescu, J. Allgaier, M. Monkenbusch, D. Richter, B. Jakobs, T. Sottmann, and R. Strey. Measuring bending rigidity and spatial renormalization in bicontinuous microemulsions. *Europhys. Lett.*, 56:683–689, 2001.
- [334] A. Lamura, T. W. Burkhardt, and G. Gompper. Semi-flexible polymer in a uniform force field in two dimensions. *Phys. Rev. E*, 64:061801 [1–8], 2001.
- [335] M. Mihailescu, M. Monkenbusch, H. Endo, J. Allgaier, G. Gompper, J. Stellbrink, D. Richter, B. Jakobs, T. Sottmann, and B. Farago. Dynamics of bicontinuous microemulsion phases with and without amphiphilic block-copolymers. *J. Chem. Phys.*, 115:9563–9577, 2001.
- [336] A. Lamura, G. Gompper, T. Ihle, and D. M. Kroll. Multi-particle-collision dynamics: Flow around a circular and square cylinder. *Europhys. Lett.*, 56:319–325, 2001.
- [337] G. Gompper, D. Richter, and R. Strey. Amphiphilic block copolymers in oil-water-surfactant mixtures: Efficiency boosting, structure, phase behavior, and mechanism. *J. Phys.: Condens. Matter*, 13:9055–9074, 2001.
- [338] W. T. Gózdź and G. Gompper. Shape transformations of two-component membranes under weak tension. *Europhys. Lett.*, 55:587–593, 2001.
- [339] H. Endo, M. Mihailescu, M. Monkenbusch, J. Allgaier, G. Gompper, D. Richter, B. Jakobs, T. Sottmann, R. Strey, and I. Grillo. Effect of amphiphilic block copolymers on the structure and phase behavior of oil-water-surfactant mixtures. *J. Chem. Phys.*, 115:580–600, 2001.
- [340] P. B. Sunil Kumar, G. Gompper, and R. Lipowsky. Budding dynamics of multicomponent membranes. *Phys. Rev. Lett.*, 86:3911–3914, 2001.
- [341] U. S. Schwarz and G. Gompper. Bending frustration of lipid-water mesophases based on cubic minimal surfaces. *Langmuir*, 17:2084–2096, 2001.
- [342] T. Schilling, O. Theissen, and G. Gompper. Dynamics of the swollen lamellar phase. *Eur. Phys. J. E*, 4:103–114, 2001.
- [343] U. S. Schwarz and G. Gompper. Stability of inverse bicontinuous cubic phases in lipid-water mixtures. *Phys. Rev. Lett.*, 85:1472–1475, 2000.
- [344] H. Endo, J. Allgaier, G. Gompper, B. Jakobs, M. Monkenbusch, D. Richter, T. Sottmann, and R. Strey. Membrane decoration by amphiphilic block copolymers in bicontinuous microemulsions. *Phys. Rev. Lett.*, 85:102–105, 2000.

- [345] G. Gompper and D. M. Kroll. Melting transition of a network model in two dimensions. *Eur. Phys. J. E*, 1:153–157, 2000.
- [346] U. S. Schwarz and G. Gompper. Stability of bicontinuous cubic phases in ternary amphiphilic systems with spontaneous curvature. *J. Chem. Phys.*, 112:3792–3802, 2000.
- [347] G. Gompper and D. M. Kroll. Statistical mechanics of membranes: Freezing, undulations, and topology fluctuations. *J. Phys.: Condens. Matter*, 12:29–37, 2000.
- [348] P. B. Sunil Kumar, G. Gompper, and R. Lipowsky. Modulated phases in multi-component fluid membranes. *Phys. Rev. E*, 60:4610–4618, 1999.
- [349] O. Theissen and G. Gompper. Lattice-boltzmann study of spontaneous emulsification. *Eur. Phys. J. B*, 11:91–100, 1999.
- [350] G. Gompper and M. Schick. Microscopic models of microemulsions. In P. Kumar and K. L. Mittal, editors, *Handbook of Microemulsion Science and Technology*, pages 59–104. Marcel Dekker, New York, 1999.
- [351] U. S. Schwarz and G. Gompper. Systematic approach to bicontinuous cubic phases in ternary amphiphilic systems. *Phys. Rev. E*, 59:5528–5541, 1999.
- [352] W. T. Gózdź and G. Gompper. Shapes and shape transformations of two-component membranes of complex topology. *Phys. Rev. E*, 59:4305–4316, 1999.
- [353] R. Goetz, G. Gompper, and R. Lipowsky. Mobility and elasticity of self-assembled membranes. *Phys. Rev. Lett.*, 82:221–224, 1999.
- [354] G. Gompper and D. M. Kroll. Membranes with fluctuating topology: Monte Carlo simulations. *Phys. Rev. Lett.*, 81:2284–2287, 1998.
- [355] O. Theissen, G. Gompper, and D. M. Kroll. Lattice-boltzmann model of amphiphilic systems. *Europhys. Lett.*, 42:419–424, 1998.
- [356] W. T. Gózdź and G. Gompper. Composition-driven shape transformations of membranes of complex topology. *Phys. Rev. Lett.*, 80:4213–4216, 1998.
- [357] G. Gompper and D. M. Kroll. Network models of fluid, hexatic and polymerized membranes. *J. Phys.: Condens. Matter*, 9:8795–8834, 1997.
- [358] G. Gompper and D. M. Kroll. The freezing of flexible vesicles of spherical topology. *J. Phys. I France*, 7:1369–1390, 1997.
- [359] G. Gompper. Modellierung von knautschprozessen (monatsspektrum). *Spektrum der Wissenschaft*, Heft 10:29–33, 1997.

- [360] G. Gompper and D. M. Kroll. Fluctuations of polymerized, fluid and hexatic membranes: continuum models and simulations. *Curr. Opin. Colloid Interface Sci.*, 2:373–381, 1997.
- [361] G. Gompper. Patterns of stress in crumpled sheets. *Nature*, 386:439–441, 1997.
- [362] G. Gompper and D. M. Kroll. Freezing flexible vesicles. *Phys. Rev. Lett.*, 78:2859–2862, 1997.
- [363] M. Hennes and G. Gompper. Dynamical behavior of microemulsion and sponge phases in thermal equilibrium. *Phys. Rev. E*, 54:3811–3831, 1996.
- [364] U. S. Schwarz, K. Swamy, and G. Gompper. The lamellar-to-isotropic transition in ternary amphiphilic systems. *Europhys. Lett.*, 36:117–122, 1996.
- [365] G. Gompper and D. M. Kroll. Random surface discretizations and the renormalization of the bending rigidity. *J. Phys. I France*, 6:1305–1320, 1996.
- [366] G. Gompper. Ginzburg-Landau theories of ternary amphiphilic systems. *Ber. Bunsenges. Phys. Chem.*, 100:264–271, 1996.
- [367] G. Gompper and M. Hennes. Transport coefficients of microemulsions and sponge phases. In J. Daillant, P. Guenoun, C. Marques, P. Muller, and J. Tran Thanh Van, editors, *Short and Long Chains at Interfaces*, pages 385–390, Gif-sur-Yvette, 1995. Editions Frontières.
- [368] G. Gompper and D. M. Kroll. Driven transport of fluid vesicles through narrow pores. *Phys. Rev. E*, 52:4198–4208, 1995.
- [369] G. Gompper and J. Goos. Reply to “comment on ‘fluctuating interfaces in microemulsion and sponge phases’”. *Phys. Rev. E*, 52:1248–1249, 1995.
- [370] D. M. Kroll and G. Gompper. Polymer and vesicle conformation and scaling in elongational flow fields. *J. Chem. Phys.*, 102:9109–9120, 1995.
- [371] G. Gompper and U. S. Schwarz. Phase diagram and scattering intensity of binary amphiphilic systems. *Z. Phys. B*, 97:233–238, 1995.
- [372] G. Gompper and J. Goos. Structure, topology and phase behavior of amphiphilic systems. In D. Stauffer, editor, *Annual Reviews of Computational Physics*, pages 101–136. World Scientific, Singapore, 1995.
- [373] G. Gompper and J. Goos. Fluctuations and phase behavior of passages in a stack of fluid membranes. *J. Phys. II France*, 5:621–634, 1995.
- [374] G. Gompper and M. Hennes. Layering, dewetting and first-order wetting in ternary amphiphilic systems. *J. Chem. Phys.*, 102:2871–2880, 1995.

- [375] G. Gompper and D. M. Kroll. Phase diagram and scaling behavior of fluid vesicles. *Phys. Rev. E*, 51:514–525, 1995.
- [376] G. Gompper and D. M. Kroll. Phase diagram of fluid vesicles. *Phys. Rev. Lett.*, 73:2139–2142, 1994.
- [377] G. Gompper, M. Hauser, and A. A. Kornyshev. Confined water and hydrophobic attraction as a result of metastable coordination, stabilized by hydrophobic surfaces. *J. Chem. Phys.*, 101:3378–3389, 1994.
- [378] G. Gompper and J. Goos. Fluctuating interfaces in microemulsion and sponge phases. *Phys. Rev. E*, 50:1325–1335, 1994.
- [379] G. Gompper and M. Hennes. Dynamic structure factor of microemulsions. *Phys. Rev. Lett.*, 73:1114–1117, 1994.
- [380] G. Gompper and M. Schick. Lattice theories of microemulsions. In W. Gelbart, A. Ben-Shaul, and D. Roux, editors, *Micelles, Membranes, Microemulsions, and Monolayers*, pages 395–426. Springer-Verlag, Berlin, 1994.
- [381] G. Gompper and M. Hennes. Equilibrium dynamics of microemulsion and sponge phases. *J. Phys. II France*, 4:1375–1391, 1994.
- [382] G. Gompper and D. M. Kroll. Statistische physik von zufallsflächen. *Physikalische Blätter*, 50:557–560, 1994.
- [383] G. Gompper and M. Schick. Self-assembling amphiphilic systems. In C. Domb and J. Lebowitz, editors, *Phase Transitions and Critical Phenomena*, volume 16, pages 1–176. Academic Press, London, 1994.
- [384] G. Gompper, J. Goos, and M. Kraus. Internal structure of microemulsions and sponge phases. *Ber. Bunsenges. Phys. Chem.*, 98:501–503, 1994.
- [385] G. Gompper and M. Schick. Scattering from internal interfaces in microemulsions and sponge phases. *Phys. Rev. E*, 49:1478–1482, 1994.
- [386] G. Gompper and M. Hennes. Sound attenuation and dispersion in microemulsions. *Europhys. Lett.*, 25:193–198, 1994.
- [387] G. Gompper and D. M. Kroll. Floppy fluid vesicles in elongational flow. *Phys. Rev. Lett.*, 71:1111–1114, 1993.
- [388] G. Gompper and Martin Kraus. Ginzburg-Landau theory of ternary amphiphilic systems II: Monte Carlo simulations. *Phys. Rev. E*, 47:4301–4312, 1993.

- [389] G. Gompper and Martin Kraus. Ginzburg-Landau theory of ternary amphiphilic systems I: Gaussian interface fluctuations. *Phys. Rev. E*, 47:4289–4300, 1993.
- [390] J. Goos and G. Gompper. Topological defects in lamellar phases: Passages and their fluctuations. *J. Phys. I France*, 3:1551–1567, 1993.
- [391] D. M. Kroll and G. Gompper. The conformation of fluid vesicles. In H. Ted Davis and Johannes C. C. Nitsche, editors, *Statistical Thermodynamics and Differential Geometry of Microstructured Materials*, pages 49–55, New York, 1993. Springer-Verlag.
- [392] D. M. Kroll and G. Gompper. Floppy tethered networks. *J. Phys. I France*, 3:1131–1140, 1993.
- [393] G. Gompper and D. M. Kroll. The shape of inflated vesicles. *Phys. Rev. A*, 46:7466–7473, 1992.
- [394] G. Gompper and S. Zschocke. Ginzburg-Landau theory of oil-water-surfactant mixtures. *Phys. Rev. A*, 46:4836–4851, 1992.
- [395] D. M. Kroll and G. Gompper. The scaling behavior of randomly triangulated self-avoiding surfaces. *Phys. Rev. A*, 46:3119–3122, 1992.
- [396] G. Gompper and Stefan Klein. Ginzburg-Landau theory of aqueous surfactant solutions. *J. Phys. II France*, 2:1725–1744, 1992.
- [397] J. Lerczak, M. Schick, and G. Gompper. Variation with amphiphilic strength of the properties of ternary mixtures. *Phys. Rev. A*, 46:985–993, 1992.
- [398] G. Gompper and D. M. Kroll. Inflated vesicles: A new phase of fluid membranes. *Europhys. Lett.*, 19:581–586, 1992.
- [399] G. Gompper and S. Zschocke. Ginzburg-Landau theory of bulk and interfacial properties of amphiphilic systems. In R. Lipowsky, D. Richter, and K. Kremer, editors, *The Structure and Conformation of Amphiphilic Membranes*, pages 206–211, Berlin, 1992. Springer.
- [400] G. Gompper. Bulk and interfacial properties of amphiphilic systems: A Ginzburg-Landau approach. In S.-H. Chen, J. S. Huang, and P. Tartaglia, editors, *Structure and Dynamics of Strongly Interacting Colloids and Supramolecular Aggregates in Solution*, pages 815–826, Dordrecht, 1992. Kluwer Academic Publishers.
- [401] G. Gompper and D. M. Kroll. Edge correlations of fluid and tethered membranes. *J. Phys. I France*, 2:663–676, 1992.

- [402] D. M. Kroll and G. Gompper. The conformation of fluid membranes. *Science*, 255:968–971, 1992.
- [403] G. Gompper. Unbinding transitions of flexible polymers or membranes in two dimensions. In L. Peliti, editor, *Biologically Inspired Physics*, pages 175–187, New York, 1991. Plenum Press.
- [404] G. Gompper and S. Zschocke. Elastic properties of interfaces in a Ginzburg-Landau theory of swollen micelles, droplet crystals, and lamellar phases. *Europhys. Lett.*, 16:731–736, 1991.
- [405] G. Gompper and D. M. Kroll. Fluctuations of a polymerized membrane between walls. *J. Phys. I France*, 1:1411–1432, 1991.
- [406] G. Gompper and D. M. Kroll. A polymerized membrane in confined geometry. *Europhys. Lett.*, 15:783–788, 1991.
- [407] G. Gompper, R. Holyst, and M. Schick. Interfacial properties of amphiphilic systems: The approach to Lifshitz points. *Phys. Rev. A*, 43:3157–3160, 1991.
- [408] G. Gompper and U. Seifert. Unbinding transitions of Gaussian polymers in two dimensions. *J. Phys. A*, 23:L1161–L1167, 1990.
- [409] G. Gompper and M. Schick. Correlation between structural and interfacial properties of amphiphilic systems. *Phys. Rev. Lett.*, 65:1116–1119, 1990.
- [410] G. Gompper and M. Schick. Lattice model of microemulsions: The effect of fluctuations in one and two dimensions. *Phys. Rev. A*, 42:2137–2149, 1990.
- [411] G. Gompper, D. M. Kroll, and R. Lipowsky. Nonclassical wetting behavior in the solid-on-solid limit of the three-dimensional Ising model. *Phys. Rev. B*, 42:961–964, 1990.
- [412] G. Gompper and M. Schick. Lattice model of microemulsions. *Phys. Rev. B*, 41:9148–9162, 1990.
- [413] G. Gompper and M. Schick. Phase and scattering behavior of disordered aqueous surfactant solutions as the binary limit of ternary microemulsions. *Chem. Phys. Lett.*, 163:475–479, 1989.
- [414] G. Gompper and T.W. Burkhardt. Unbinding transition of semiflexible membranes in $(1 + 1)$ dimensions. *Phys. Rev. A*, 40:6124–6127, 1989.
- [415] G. Gompper and D. M. Kroll. Surface melting and surface induced disorder transitions in thin films: the effect of hidden variables. *Phys. Rev. B*, 40:7221–7229, 1989.

- [416] G. Gompper and M. Schick. Microemulsion structure from a three-component lattice model. *Phys. Rev. Lett.*, 62:1647–1650, 1989.
- [417] G. Gompper and D. M. Kroll. Steric interactions in a multimembrane system: a Monte Carlo study. *Europhys. Lett.*, 9:59–64, 1989.
- [418] D. M. Kroll and G. Gompper. Finite size effects at wetting transitions. *Phys. Rev. B*, 39:433–445, 1989.
- [419] G. Gompper and D. M. Kroll. Wetting in FCC Ising antiferromagnets and binary alloys II: a Monte Carlo and renormalization group study. *Phys. Rev. B*, 38:459–473, 1988.
- [420] G. Gompper and D. M. Kroll. Critical behavior of effective interface models for wetting in three dimensions. *Europhys. Lett.*, 5:49–53, 1988.
- [421] G. Gompper and D. M. Kroll. Monte Carlo study of nonuniversal wetting behavior in $(2 + 1)$ dimensions. *Phys. Rev. B*, 37:3821–3824, 1988.
- [422] N. Bernhard, E. Burkel, G. Gompper, H. Metzger, J. Peisl, H. Wagner, and G. Wallner. Grazing incidence diffraction of x-rays at a si single crystal surface: Comparison of theory and experiment. *Z. Phys. B*, 69:303–310, 1987.
- [423] D. M. Kroll and G. Gompper. Wetting in FCC Ising antiferromagnets and binary alloys. *Phys. Rev. B*, 36:7078–7090, 1987.
- [424] G. Gompper. Universal amplitudes for critical surface scattering. *Z. Phys. B*, 62:357–366, 1986.
- [425] G. Gompper and H. Wagner. Conformal invariance in semi-infinite systems: Application to critical surface scattering. *Z. Phys. B*, 59:193–196, 1985.
- [426] H.W. Diehl, G. Gompper, and W. Speth. Universal relations among critical amplitudes of surface quantities. *Phys. Rev. B*, 31:5841–5853, 1985.
- [427] G. Gompper. Scaling functions for critical surface scattering. *Z. Phys. B*, 56:217–227, 1984.
- [428] R. Lipowsky and G. Gompper. Interface delocalization transitions in finite systems. *Phys. Rev. B*, 29:5213–5215, 1984.