

# Soft Matter

Where physics meets chemistry meets biology for fundamental soft matter research

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### Cover

See David J. Fairhurst *et al.*, pp. 5889–5903. Image reproduced by permission of David J. Fairhurst from *Soft Matter*, 2024, 20, 5889.



### Inside cover

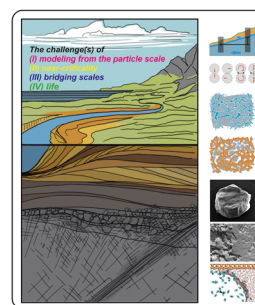
See Florent Fessler, Antonio Stocco *et al.*, pp. 5904–5914. Image reproduced by permission of Florent Fessler from *Soft Matter*, 2024, 20, 5904.

## PERSPECTIVE

5859

### Soft matter physics of the ground beneath our feet

Anne Voigtländer,\* Morgane Houssais,\* Karol A. Bacik, Ian C. Bourg, Justin C. Burton, Karen E. Daniels, Sujit S. Datta, Emanuela Del Gado, Nakul S. Deshpande, Olivier Devauchelle, Behrooz Ferdowsi, Rachel Glade, Lucas Goehring, Ian J. Hewitt, Douglas Jerolmack, Ruben Juanes, Arshad Kudrolli, Ching-Yao Lai, Wei Li, Claire Masteller, Kavinda Nissanka, Allan M. Rubin, Howard A. Stone,\* Jenny Suckale, Nathalie M. Vriend, John S. Wettlaufer and Judy Q. Yang

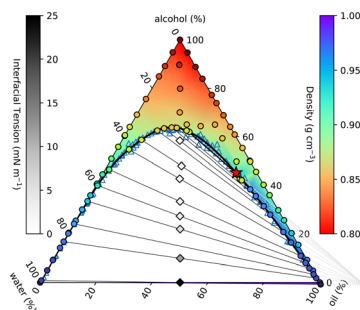


## PAPERS

5889

### Experimental and theoretical bulk phase diagram and interfacial tension of ouzo

Andrew J. Archer, Benjamin D. Goddard, David N. Sibley, James T. Rawlings, Ross Broadhurst, Fouzia F. Ouali and David J. Fairhurst\*



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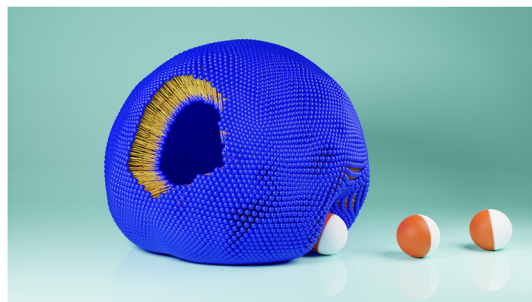
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5904

### Autonomous engulfment of active colloids by giant lipid vesicles

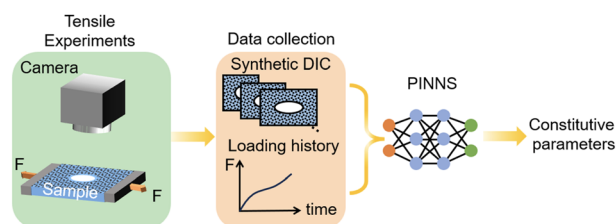
Florent Fessler,\* Martin Wittmann, Juliane Simmchen and Antonio Stocco\*



5915

### Identifying constitutive parameters for complex hyperelastic materials using physics-informed neural networks

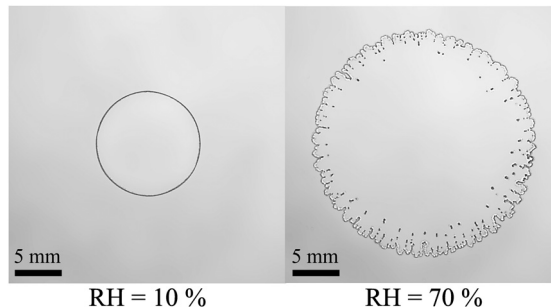
Siyuan Song and Hanxun Jin\*



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### Spreading of volatile droplets in a humidity-controlled environment

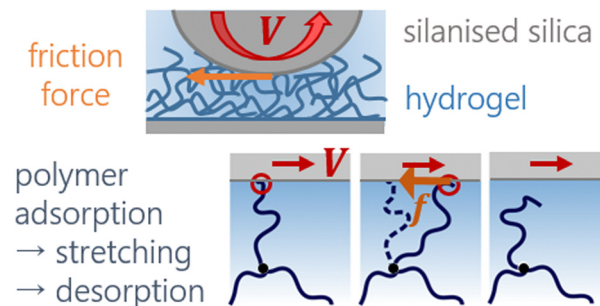
Nayoung Kim,\* Pallav Kant and Devaraj van der Meer



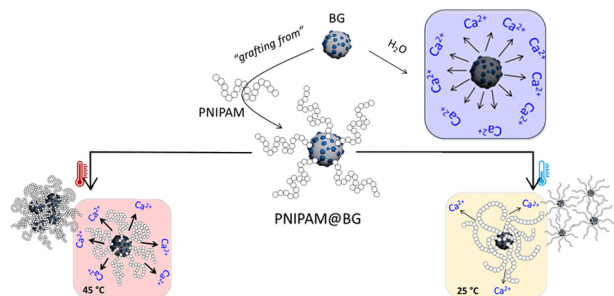
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### Friction through molecular adsorption at the sliding interface of hydrogels: theory and experiments

Lola Ciapa, Ludovic Olanier, Yvette Tran, Christian Frétygny, Antoine Chateauminois\* and Emilie Verneuil\*



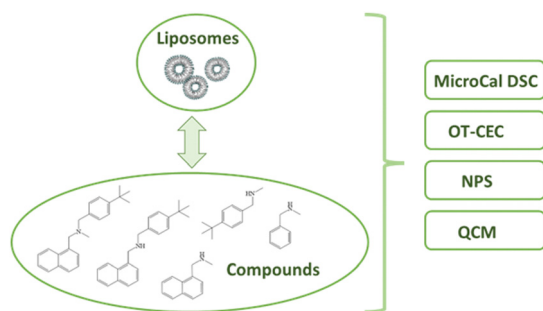
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### Temperature-responsive bioactive glass/polymer hybrids allow for tailoring of ion release

Afshin Nabiyan,\* Zhaorui Jin and Delia S. Brauer\*

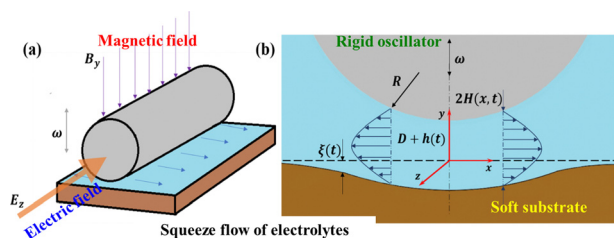
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### Fragment-based approach to study fungicide-biomimetic membrane interactions

Shishir Jaikishan, Marine Lavainne, Henri K. Ravald, Kieran Scobbie, Filip Dusa, Rekha Maheswari, Jenni Turpeinen, Ian Eikemans, Rui Chen, Julia Rantala, Vladimir Aseyev, Norbert N. Maier and Susanne K. Wiedmer\*

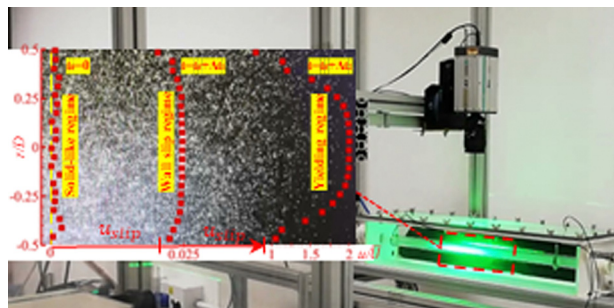
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### Elasto-compliance of harmonically stimulated soft micro-gaps during electro-magneto-kinetic flows

Akshay Manoj Bhaskaran, Shubham Agrawal, Korak Sarkar and Purbarun Dhar\*

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### Visualizing flow dynamics and restart of Carbopol gel solutions in tube and parallel-plates geometries with wall slip

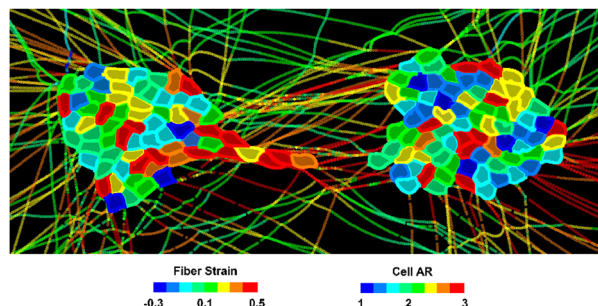
Angel De J. Rivera,\* Yamid J. Garcia-Blanco, Luis H. Quitian-Ardila, Eduardo M. Germer and Admilson T. Franco



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### Tensile force field plays a crucial role in local invasion of tumor cells through a mechano-chemical coupling mechanism

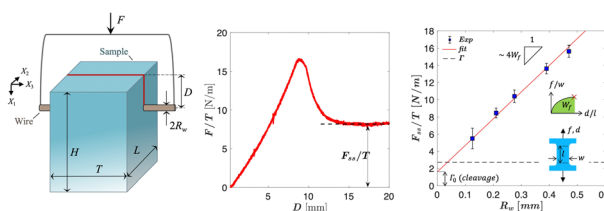
Jianfeng Meng, Xiangyu Xu, Chaohui Jiang, Peng Xia, Pengfei Xu, Liangfei Tian, Yingke Xu, Dechang Li, Youhua Tan\* and Baohua Ji\*



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### Cutting soft matter: scaling relations controlled by toughness, friction, and wear

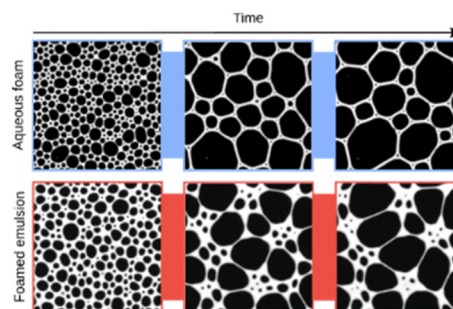
Bharath Antarvedi Goda, Zhenwei Ma,\* Stefano Fregonese and Mattia Bacca\*



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### Foam coarsening in a yield stress fluid

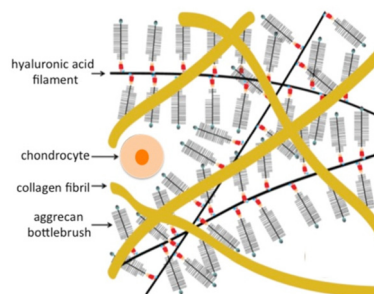
Alice Requier,\* Chiara Guidolin, Emmanuelle Rio, Nicolò Galvani, Sylvie Cohen-Addad, Olivier Pitois and Anniina Salonen\*



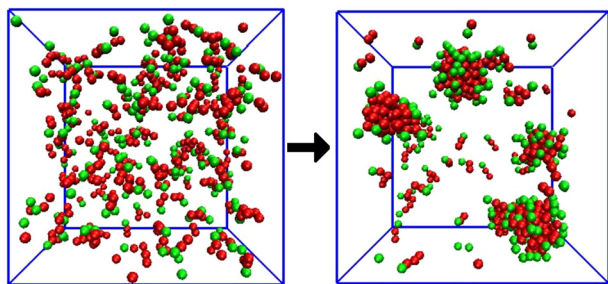
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### Cartilage extracellular matrix polymers: hierarchical structure, osmotic properties, and function

Ferenc Horkay,\* Peter J. Bassar and Erik Geissler



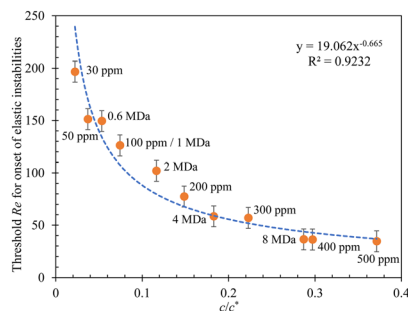
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### Many-body dissipative particle dynamics simulations of micellization of sodium alkyl sulfates

Rachel L. Hendrikse,\* Carlos Amador and Mark R. Wilson

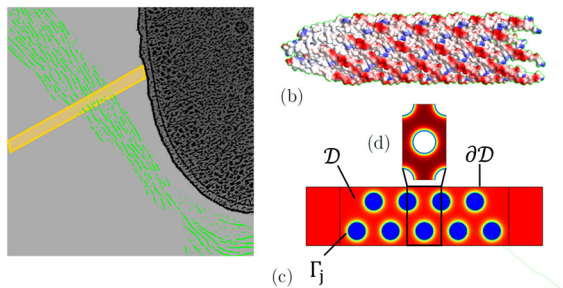
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### Elasto-inertial instabilities in the merging flow of viscoelastic fluids

Mahmud Kamal Raihan, Nayoung Kim, Yongxin Song\* and Xiangchun Xuan\*

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### Modelling the effects of charge on antibiotic diffusion and adsorption in liquid crystalline virus suspensions

Maria Tessel van Rossem,\* Sandra Wilks, Malgosia Kaczmarek and Giampaolo D'Alessandro

