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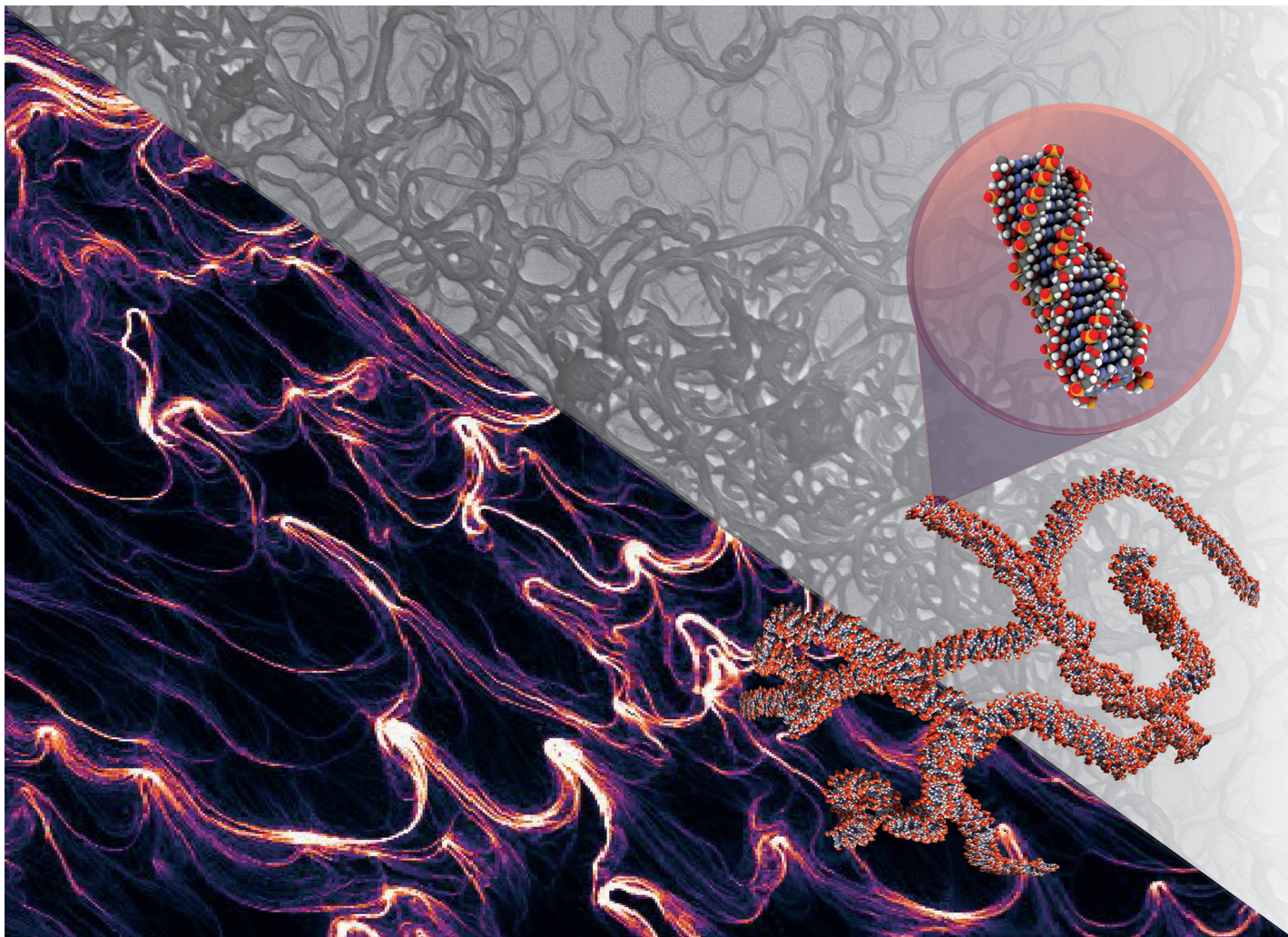
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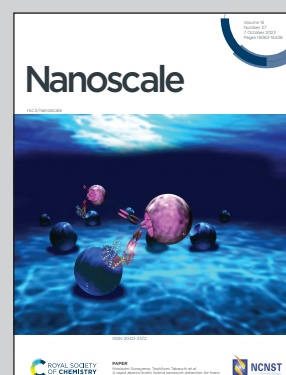


Showcasing research from Professor Paolo Mariani's group at the Molecular Biophysics Laboratory, Department of Life and Environmental Sciences, Università Politecnica delle Marche, Ancona, Italy.

Self-oriented anisotropic structure of G-hydrogels as a delicate balance between attractive and repulsive forces

Guanosine and GMP in water self-assemble in flexible and knotted G-quadruplexes, which form a transparent hydrogel, stable up to 99% water and characterized by unique orientational properties. SAXS intensity distribution and AFM directionality histograms demonstrate that the preferred orientation depends on composition and temperature, in turn controlling the G-quadruplex lateral interactions. Hydrogel alignment in preferred directions occurs even in the presence of external (opposing) forces, providing novel possibilities for scaffold/3D-printing applications.

As featured in:



See Alessia Pepe, Paolo Mariani *et al.*, *Nanoscale*, 2023, **15**, 15196.