Bio-based responsive macromolecular materials


- Rule of Life: Pufferfish inflate by swallowing water, then return to original shape by releasing water
- Macromolecular gel absorbs dirty water, releases pure water when exposed to sun

Phase separation/aggregation of biobased molecules
(Priestley & Register & Datta groups)
- Cellulose-based polymers: side chains control phase behavior and aggregation

Visualization of colloidal transport in 3D media
- Interplay between colloidal and hydrodynamic forces controls transport over large length- and time-scales


¹Princeton University

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