



Showcasing research from Professor Vernerey's laboratory,
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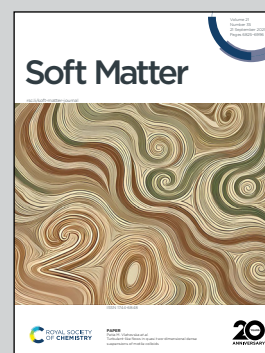
Dynamic self-organization in fire ant rafts underpins collective
longevity and threat responsiveness

The red imported fire ant *Solenopsis invicta* forms a buoyant raft in hostile flooded environments that can dynamically self-organize into a variety of structures to balance between long-term energy conservation and short-term threat response. To conserve energy, rafts separate into active and inactive phases through the formation of stationary clusters. These can in turn dissolve quickly under external stimuli, thereby enabling a swift decentralized collective response. Rapid mobilization of the swarm also aids exploration through formation of fast-growing bridges which help the colony find dry land, improving their survival outcome.

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