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Active nematics: A new approach to mechanobiology?

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Active materials such as bacteria, molecular motors and eukaryotic cells continuously transform chemical energy taken from their surroundings to mechanical work. Dense active nematics show mesoscale turbulence, the emergence of chaotic flow structures characterised by high vorticity and self-propelled topological defects. I shall describe the physics of active nematics and discuss how this may be relevant to biological processes such as cell sorting and early embryogenesis.