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### **Self Assembly of Colloids<sup>1</sup>**

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We are exploring the self assembly of colloidal matter using building blocks with complex shapes and functionalities. Our toolbox includes particles with tunable cavities and protrusions, particles with flexible ball-and-socket joints, colloidal cubes and particles with magnetic patches. Using these building blocks and a variety of interactions, including chemical, steric, magnetic and lock-and-key shape recognition, we aim to develop new assembly schemes to build structures with a reconfigurable structural arrangement.

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