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### **Colloidal Armor**

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Assembly of colloidal particles on fluid-fluid interfaces is a promising technique for synthesizing two-dimensional structured materials. We describe a microfluidic method that allows direct visualization and understanding of the dynamics of the growth of colloidal crystals on a curved interface. We show how this approach allows control over composition and size of the colloidal armor, including making janus shells. The two-dimensional granular shells have mechanical properties similar to other elastic-plastic materials. These features will be described and the influence of surfactants on the shells will be presented. Finally, gas bubbles covered with colloidal particles show unusual stability against gas dissolution, and we will explore this stability using experiments and numerical simulations.