



Soft Living Active and Adaptive Matter



Magnetic Handshake Materials

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Abstract:

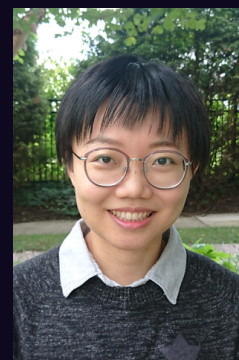
Biological materials gain complexity from the programmable nature of their components. To manufacture materials with comparable complexity synthetically, we need to create building blocks with low crosstalk so that they only bind to their desired partners. Canonically, these building blocks are made using DNA strands or proteins to achieve specificity. Here we propose a new materials platform, termed Magnetic Handshake Materials, in which we program interactions through designing magnetic dipole patterns. This is a completely synthetic platform, enabled by magnetic printing technology, which is easier to both model theoretically and control experimentally. In this seminar, I will give an overview of the development of the Magnetic Handshake Materials platform, ranging from interaction, assembly to function design.

Date:
08/01/2022

Time:
9:00 AM-10:15 AM (PT)
12:00 PM-1:15 PM (ET)

About the speaker:

Dr. Chrisy Xiyu Du is a research associate working with Professor Michael Brenner at Harvard University focusing on using theoretical and computational tools to design soft materials structures and functions. She will join the Department of Mechanical Engineering at University of Hawaii at Manoa as an assistant professor in January 2023. She earned her PhD in physics from University of Michigan, working with Professor Sharon Glotzer and Professor Greg van Anders, with a dissertation titled "Solid-Solid Phase Transitions in Colloidal Matter".



Dr. Du is also active in a variety of DEI efforts. Most recently, she voiced concerns for international students at an APS Webinar and the APS International Young Leader Forum. In addition, she co-organized a series of webinars for a forum serving Chinese-speaking females and non-binary people (womenoverseas.com), inviting speakers to talk about a variety of topics ranging from transitioning from a PhD to industry to doing DEI work as a PhD students.

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