

Abstract Submitted  
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**Handedness and self assembly of chiral rods** EFI EFRATI, University of Chicago — When handed building blocks, such as twisted fusilli, self-assemble the resulting assembled object is typically also handed (as are its physical response properties). This phenomenon plays a central role in fields ranging from biological self-assembly to optimizing the design of optical meta-materials. Despite the importance of this problem, predicting the relation between the handedness of the constituents of an assembled object and its overall handedness has remained an elusive goal even for the simplest of cases. At the heart of this problem lies the difficulty of quantifying the handedness of even a single building block. In this talk I will show how a recent orientation-dependent interpretation of handedness as a relation between directions and rotations sidesteps most of the difficulties associated with the quantification of handedness and resolves an existing puzzle regarding the self-assembly of handed colloidal rods.

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