

PHYSICAL MATHEMATICS SEMINAR

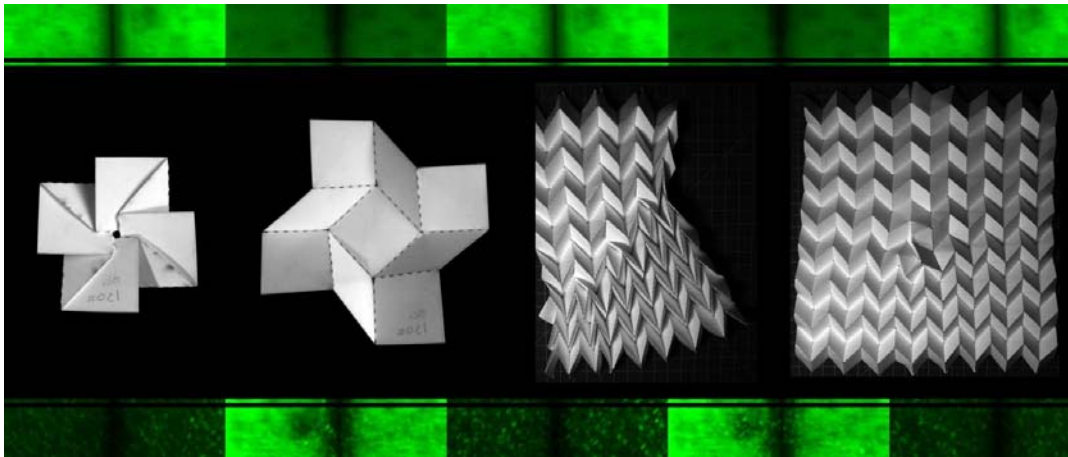
Origami, Topology, and Transformers: Why Not?

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ABSTRACT:

In this talk, I will discuss experiments, theories, and computations on the physics of folded paper. The fundamental aspects of this work address the connection between the simple geometry of an origami folding pattern, the resulting topology of configuration space, and the emergent bulk mechanical properties. The applied-sciences aspect reorients and examines how practical devices can be fabricated from these abstract design principles. While we find mechanical analogs of familiar physical phenomena such as lattice defects, vacancies, and phase transitions, we also uncover a number of unexpected behaviors unique to thin folded sheets. Probing these “reprogrammable mechanical metamaterials” ultimately leads to new insights and a greater appreciation for the art-form itself.



TUESDAY, OCTOBER 31, 2017

2:30 PM

Building 2, Room 142

*Reception following in Building 2, Room 290
(Math Dept. Common Room)*

<http://math.mit.edu/seminars/pms/>