

PHYSICAL MATHEMATICS SEMINAR

Dynamic buckling instabilities in fluids and solids

OUSMANE KODIO

Massachusetts Institute of Technology

ABSTRACT:

Many natural phenomena encountered in nature may be understood through the paradigm of buckling instability. Examples include the design of columns in structural engineering, the folding of geological formations, the collapse of blood vessels, and the fragmentation of uncooked spaghetti, to name only a few. The phenomenon of buckling has traditionally been seen only as a nuisance, but more recently it has also proven useful as a potential tool for pattern formation, particularly at small scales. Many studies have focused on the features of static buckling, particularly pattern formation. In this seminar, we will discuss how dynamic buckling affects the spontaneous selection of patterns in a number of canonical problems, such as the dynamic buckling of viscous and elastic rings, and the wrinkling of a lubricated layer.

TUESDAY, OCTOBER 1, 2019

2:30 PM – 3:30 PM

Building 2, Room 131

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

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