

PHYSICAL MATHEMATICS SEMINAR

From plant form and morphogenesis to new problems in solid and fluid mechanics

AREZKI BOUDAUD

Institut Polytechnique de Paris

ABSTRACT:

What sets and constrains the size and form of organisms is still, by large, an open question. During this talk, I will illustrate how we are addressing this question from the viewpoints of solid and fluid mechanics. Firstly, we developed indentation-based measurements of the internal pressure of plant cells, which yielded an analogy between plant tissues and liquid foams. Secondly, we started using microfluidics to quantify how tissue mechanical and hydraulic properties change when a plant starts growing. Finally, we are investigating how the hydrodynamics of droplet bouncing constrains the shape of organs involved in plant dispersal.

TUESDAY, NOVEMBER 16, 2021

2:30 PM – 3:30 PM

<https://math.mit.edu/sites/pms/>

<https://mit.zoom.us/j/95597721876>

Meeting ID: 95597721876