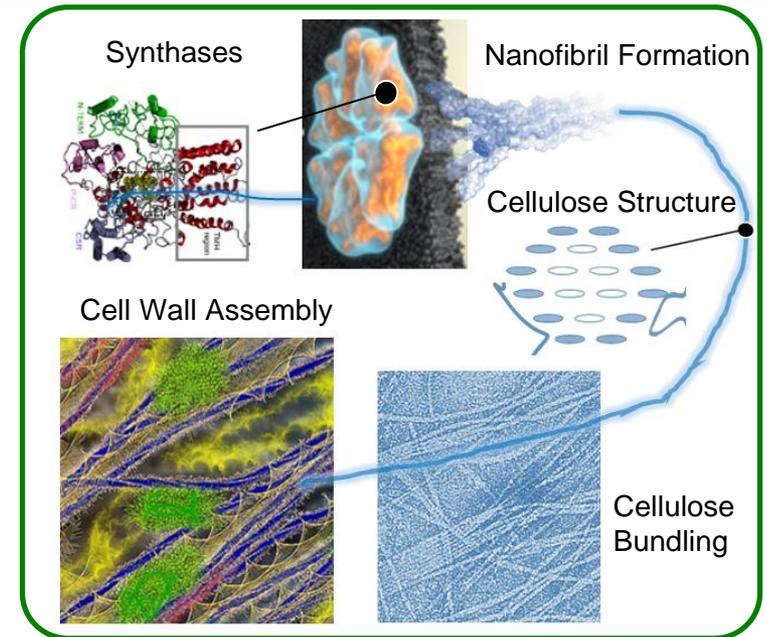


# Center for Lignocellulose Structure and Formation (CLSF)

Daniel J. Cosgrove (Penn State University); Class: 2009-2022

**MISSION:** To develop a nano- to meso-scale understanding of cellulosic cell walls, the energy-rich structural material in plants, and the physical mechanisms of wall assembly, forming the foundation for new technologies in sustainable energy and novel biomaterials.



[www.lignocellulose.org](http://www.lignocellulose.org)

## RESEARCH PLAN

Combining cutting-edge tools of biology and physics, CLSF is elucidating (a) the nano-machinery that transforms simple sugars into cellulose microfibrils and (b) the physical processes by which cellulose interacts with matrix polysaccharides and lignin to produce hierarchically-ordered cell walls with diverse physical, chemical and material properties.



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science



**NC STATE**

**LSU**

**MIT**

Massachusetts  
Institute of  
Technology



PENNSTATE



CLSF