



3:00-4:00pm, Friday, April 8th, 2022

1221 Patrick F Taylor Hall

by **Anastasia Muliana***

Flexible and reconfigurable systems are usually found in many living organisms, e.g., opening and closing of pine cones due to moisture changes, nastic motion of plants, solar tracking sunflowers, reconfiguration of palm trees due to winds, etc. As flexible and adaptive structures are appealing for many engineering applications, such as deployable sun sails, morphing structures, soft robotics, and architectural facades, engineers have proposed numerous concepts in designing shape reconfiguration structures. These structures are typically made of composite materials that consist of several different materials with different chemical and physical properties and certain micro-macroscopic geometries. This presentation discusses the roles of materials and geometries on the deformations and functionality of flexible and reconfigurable structures. Two examples are presented. The first one is on creating flexible and reconfigurable structures out of wood composite kerf panels to control stress wave propagation. The second one is on understanding the