

# What Sandia Wants to Know

**Given a conceptual design of a multilayer structure,**

***What is a design with optimized  
thermal warpage and stress?***

- Questions to address include:
  - What is an estimate of warpage and stress with an arbitrary number of uniform and graded layers and temperature-dependent properties?
  - What is an efficient algorithm that configures the layers to manage the warpage and stress?

***Addressing this problem can help us accelerate development  
of a wide range of multilayered structures.***

- Mr. Goodbar: *are there multilayer designs that maximize the probability of structural performance under uncertain conditions?*
- Dr. Greatbar: *can you develop a solution for multilayer structures of various fundamental geometries?*