Dr. Shelton will give a brief overview of U.S. energy utilization highlighting how building energy systems impact the U.S. energy demand. A review of current building energy technologies for lighting, heating, cooling, and water heating will then be presented, followed by potential new technologies to reduce building energy demand.

Dr. Thomas will explore ideas for substantially reducing energy use in buildings, focusing on energy used for residential heating as an example. The physical relationships and parameters driving energy use for residential heating will be examined, followed by brief consideration of a variety of ways to get outside the standard parameters and physical relationships.