Improving Student Understanding of Physics Through Research

Despite our best and most sincere efforts, there is an alarming disconnect between what we teach and what students learn.

I will discuss my research in physics education that has implications for helping students learn more effectively. One study shows that the difficulty of a problem not only depends on its inherent complexity but also on the familiarity and intuition one has developed about it. Unresolved misconceptions are also shown to hinder learning.

Based upon physics education research, I will discuss strategies that help a variety of students learn physics.