

Division of Biological Sciences Seminar Program presents:
**The Science of Teaching:
Evidence-Based approaches in Biology Education**

Teaching Students to Think Like Scientists



Dr. Carl Wieman

Nobel Prize Laureate, Physics (2001)
Department of Physics and School of Education
Stanford University

Friday, May 11, Liebow Auditorium
(Biomedical Sciences Building)
11:00 AM – 12:00 PM

Abstract: Cognitive psychology research has provided valuable insights as to the nature of scientific expertise (i.e. thinking/making decisions like a scientist), and how these capabilities are best developed. These ideas provide useful guidance for teaching and assessing learning for all levels of science courses. I will show how to apply these concepts in a variety of different STEM courses from introductory to advanced, and the resulting improvements in learning that have been achieved. I will also show how these principles reveal the flaws in some extremely common instructional practices.

Speaker's bio: Carl Wieman directed the science education initiatives at the Universities of Colorado and British Columbia. He also served as Associate Director for Science in the Office of Science and Technology Policy in the White House in 2010-12. Wieman received the Nobel Prize in physics in 2001 for the first creation of a Bose-Einstein condensate. His education work has been recognized with a number of awards including the Oersted Medal for physics education, and a lifetime achievement award from the National Science Teachers Association.