

2019 Soft Matter REU Colloquia Series

Thursday, July 11, 11:30am, SR 158



Can that really be so? A light-hearted look at the concepts of force and entropy

**Dr. Philip Taylor,
Distinguished University Professor
and Perkins Professor of Physics,
Physics Department, Case Western
Reserve University**

Abstract: Some folk think that there are four types of force. Napoleon thought there were two. I am going to talk about three types. Of these, the most interesting by far is the entropic force, which is the one that drives us to explore the unknown. Along the way, we will reach some remarkable conclusions. But will they stand up to scrutiny? As a clue we mention that the word scrutiny itself comes from the Latin for "those who search through piles of trash in the hope of finding something of value."

Biography: Philip Taylor earned his Bachelor of Science degree from King's College in London and his Ph.D. from Cambridge University in 1962. A Distinguished University Professor and the Perkins Professor of Physics, Dr. Taylor has been on the CWRU faculty for 55 years. In that time he has mentored over 50 PhD students and postdoctoral fellows and published prolifically with over 150 peer-reviewed papers. Just this year Dr. Taylor was awarded the Frank and Dorothy Humel Horvorka Prize which awards exceptional achievements in teaching, research, and scholarly service. Outside of CWRU, Taylor serves on the Panel on Public Affairs of the APS and helped craft its official statement on climate change. But Dr. Taylor is also known as a lyricist and wordsmith. A quote from his interview with CRWU's *The Daily*, "It's fun to play with words, and you get a feeling of actually creating something. But there's a challenge and delight in theoretical physics, too. Here, you're not creating as much as you are uncovering something, learning something that nobody else knows and that nobody else has known in the history of the world."