

**UCLA Department of Physics & Astronomy**

## **COLLOQUIUM**

Thursday, May 18 at 4 p.m.

1-434 PAB

The Beauty of Scattering Amplitudes

**Zvi Bern**

University of California, Los Angeles

Recipient of the 2023 Galileo Medal



In this colloquium, I will present highlights of our understanding of scattering amplitudes in quantum field theory that led to my 2023 Galileo Medal together with long-time collaborators Lance Dixon (SLAC) and David Kosower (Saclay). I will explain the application of these ideas to various topics including elementary-particle collider physics, the relation of gravity with the other forces, and basic questions on gravity and related theories. I will also explain recent developments showing that the quantum nature of gravity is very useful as a starting point for obtaining state-of-the-art precision predictions for interacting black holes and other compact astrophysical objects.

Refreshments at 3:30 p.m. on the PAB Patio. Undergraduates Welcome!