The standard model of cosmology suggests that our Universe is expanding in what is usually referred to as the Hubble expansion. However, looking at the Universal velocity field purely in terms of the Hubble expansion is naive and inaccurate. Superimposed on the Hubble expansion is the peculiar velocity field which reflects the local environment of the observed galaxies or clusters. We may think of the observed velocity of each galaxy as coming from two decoupled sources: One depends only on its distance from the observer, the other comes from the gravitational attraction of the galaxy’s neighbors, that is, the local density field. During this talk we will discuss how to exploit the extra-galactic velocity field to gain understanding of the Large Scale Structure of the Universe.

This talk is intended for the general public.