It is widely recognized that turbulence is an important and exciting frontier topic of both basic and applied plasma physics - as well as of many neighboring fields of science. Numerous aspects of this paradigmatic example of nonlinear multiscale dynamics remain to be better understood.

Meanwhile, for both laboratory and natural plasmas, an impressive combination of new experimental and observational data, new theoretical concepts, and new computational capabilities (on the brink of the exascale era!) have and will become available. Thus, we are facing a unique window of opportunity to push the boundaries of our grasp of plasma turbulence.

In this context, a main goal is to further unravel its crucial role in phenomena like cross-field transport of mass, momentum, and heat, particle acceleration and propagation, plasma heating, magnetic reconnection, or dynamo action. I will describe recent advances and future challenges in this vibrant area of research, focusing on novel insights into the redistribution and dissipation of energy in turbulent plasmas at kinetic scales.