With the discovery of topological insulators (TI), studies of topological phases have tremendously accelerated in the last ten years. Examples include 3D TI, 2D quantum spin-Hall insulator, topological Dirac, Weyl, and nodal-line semimetals, topological Kondon and crystalline insulators, and topological superconductors (TS). Recent experiments on semiconductor (SM) -- superconductor (SC) nanowire heterostructures have claimed that the long-sought-after Majorana zero modes (MZMs) may have been realized at the interface between the TS heterostructure and metallic leads, paving the way for topological quantum computation (TQC). In this talk I will discuss the theory of Majorana zero modes, overview of the current experiments, and our recent work on partially-separated Andreev bound states (ps-ABS) in SM-SC heterostructures, illustrating why the claims of experimental success may be premature.