The behavior He-vacancy clusters ($\text{He}_n\text{V}_m$) in $\alpha$-iron has been investigated using a multiscale modeling approach. Firstly, basic data, if not available in the literature, have been determined using first principles calculations in the framework of the density functional theory (DFT). These data include formation energies and migration energies of the relevant species, such as vacancies and interstitials, small interstitial or He-vacancy clusters. Frozen phonons calculations have also been employed to investigate the contribution of the vibrational entropies on the diffusion mechanisms. Secondly, the stability and the formation of He bubbles have been studied by molecular dynamics (MD) with empirical interatomic potentials using Dudarev-Derlet [1], Beck [2] and Wilson-Johnson potentials [3], respectively for Fe-Fe, He-He and Fe-He interactions. A new potential for describing Fe-He interactions has also been tested [4]. The number of He atoms and vacancies in the clusters, considered in this study, ranged from 0 to 20. Finally, kinetic Monte Carlo (KMC) simulations have been used with the parameters obtained from the lower scale calculations to explore the large space and time scale evolution of iron matrix containing helium. The growth and the shrinkage of He bubbles have been explored using this model for various temperatures. A great attention is paid to relate theoretical calculations with experimental observations in pure iron implanted with 55 keV He ions, in particular to the number density and the size of observed nanometric cavities in transmission electron microscopy (TEM) and to the content of He in the cavities measured by electron energy loss spectroscopy (EELS).