The supercurrent in Josephson junctions containing ferromagnetic materials (called S/F/S junctions) decays and oscillates rapidly with increasing F layer thickness due to the large exchange splitting between the spin-up and spin-down electron bands in F. In the presence of non-collinear magnetization, Bergeret et al. predicted that spin-triplet pair correlations are generated, which are immune to the exchange field and hence persist over much longer distances in F [1]. Several groups have now observed convincing evidence for such spin-triplet correlations in a variety of S/F and S/F/S systems. Our own approach is based on Josephson junctions of the form S/F′/F/F″/S, with non-collinear magnetizations in adjacent ferromagnetic layers [2,3]. Such structures provide the possibility to control the phase across the junction (0-state or π-state) by rotating the magnetization of one of the three ferromagnetic layers. I will present our recent progress toward achieving this goal, as well as prospects for using such junctions as elements in a superconducting memory.