Stabilization of water-in-water emulsions

Water-in-water (W/W) emulsions are formed by mixing aqueous solutions of incompatible macromolecules. Compared to oil/water interfaces, W/W interfaces have a very low interfacial tension and are thicker. Therefore, W/W emulsions cannot be stabilized by molecular surfactants. However, some ten year ago it was discovered that in some cases they can be stabilized using colloidal particles. This was known already for oil-water emulsions that were called Pickering emulsions. I will discuss the research in this area, the principles behind the stabilization process and the difference in behaviour of W/W emulsions compared with O/W emulsions.