Our group is largely interested in colloidal systems, i.e. mesoscopic particles with diameters of 10 – 1000 nanometers which are suspended in liquids. Although colloids are much larger than atoms, both systems are essentially driven by the same underlying equations and therefore share many properties. This similarity is particularly striking in situations which are governed by structural aspects or fluctuations as being important for phase transitions, glass formation, critical and dissipation phenomena etc. In contrast to atomic systems where the interactions are dictated by the electronic structure, in colloidal systems they can be largely tuned by external parameters such as optical, electrical or magnetic fields. This distinguishes colloids as versatile model systems which become increasingly important for the understanding of fundamental processes in solid state and material science but also for experimental tests of theories related to statistical physics.