Recent, cosmological hydrodynamical simulations can cover very large dynamical ranges in the resolved structures, while following a large variety of physical processes (e.g. star-formation, chemical enrichment, AGN feedback) which are important for the formation of galaxies and galaxy clusters. I will present the results from the "Magneticum" set of cosmological simulations with special emphasis on galaxy clusters. I will present results connecting the shape of the underlying dark matter halo, the ICM and the stellar component to the formation history of the halos.