

### **Abstract talk Palombarini Federica**

#### **“Self-assembling ferritin-dendrimer nanovehicles for targeted delivery of small RNAs to tumor cells”**

Archaeoglobus fulgidus chimeric ferritin was used to generate a self-assembling hybrid nanoparticle hosting an aminic dendrimer together with a small nucleic acid. The positively charged dendrimer can indeed establish electrostatic interactions with the chimeric ferritin internal surface, allowing the formation of a protein-dendrimer binary system. The 4 large triangular openings on the ferritin shell represent a gate for negatively charged small RNAs, which access the internal cavity attracted by the dense positive charge of the dendrimer. This ternary protein-dendrimer-RNA system is efficiently uptaken by acute myeloid leukemia cells, typically difficult to transfect, eliciting phenotypic effects and morphological changes similar to the initial stages of granulocyte differentiation. The results here presented pave the way for the design of a new family of protein-based transfecting agents that can