

## ABSTRACT

Image analysis is a very important tool in various scientific fields and industries, and it is used in a wide range of applications, for example in clinical diagnostics and in robotic applications. In this project image analysis techniques will be used in order to characterize the microstructural characteristics of blood as they are formed by the aggregated cells: at low flow conditions the mechanical properties of the fluid are dominated by the effects of RBC aggregation (a reversible clustering of the cells) and network formation. The aim of the project is to characterize the structural properties of blood and relate them to the rheological behavior of the fluid.