

Red blood cell dynamics under flow

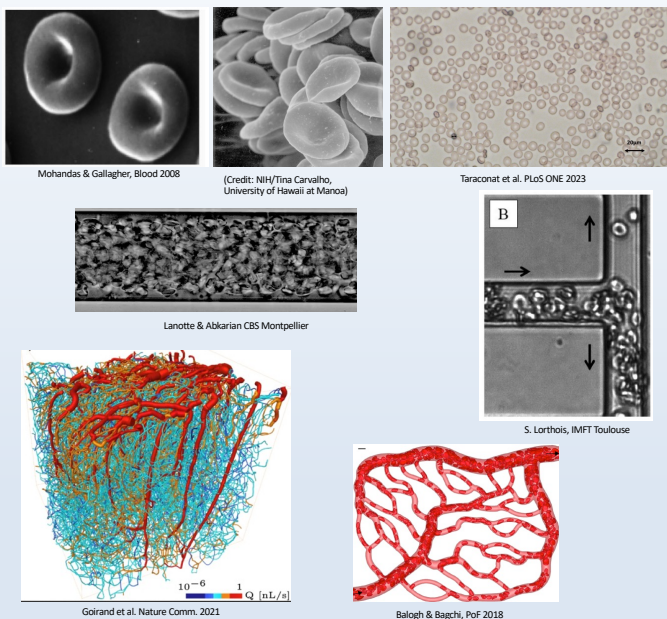
From the mechanics of single cells to blood rheology

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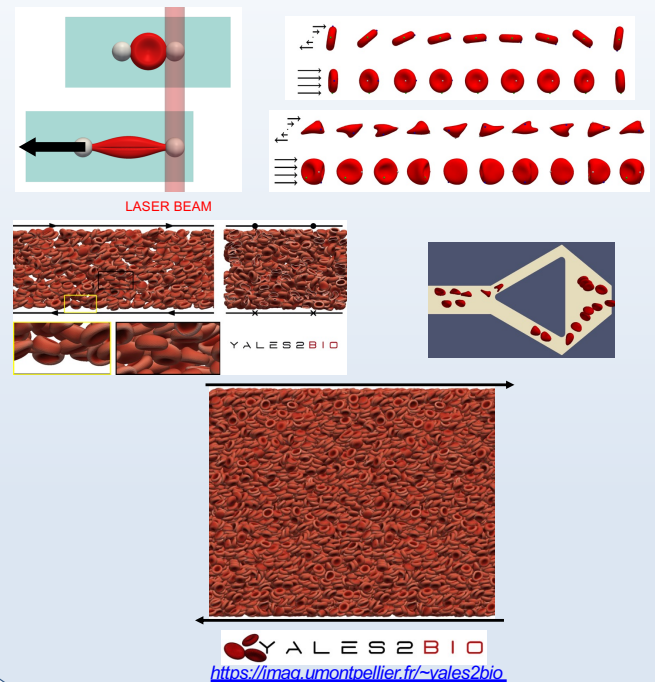
Summary: This project consists in exploiting high-fidelity simulation tools and reduced modeling approaches to study the dynamics of red blood cells under shear flow, in order to investigate the way red blood cells behave when blood is flowing in the circulation and in microfluidic devices. The aim is to unravel how single-cell behavior impact the collective response of blood under shear, in particular its rheology. The project may involve non-linear systems, continuum mechanics, programming, parallel computing, data analysis, depending on the progression and of the skills of the candidate.

Red blood cells and blood flows

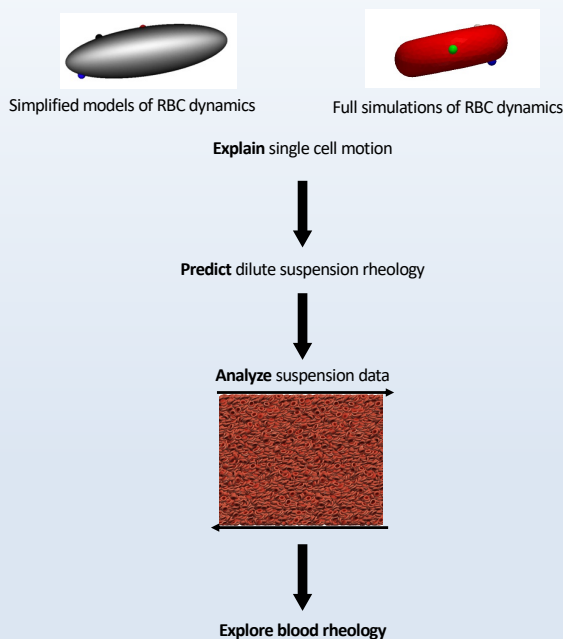


Red blood cells are highly deformable particles. Their dynamics controls the microcirculation and the perfusion of tissues

Simulations of red blood cells and blood flows



Project



The team at IMAG

A team dedicated to simulation of biological flows

