

## **WATER project**

The study of bodily fluid behaviour known as WATER (Water-based Application of Theoretical Research) is a multidisciplinary field of great importance for understanding the functioning of the human body. This study area focuses on the physical and chemical properties of bodily fluids, such as blood, lymph, cerebrospinal fluid, and other biological fluids.

The primary goal of WATER research is to analyse and understand the dynamics of bodily fluids to provide valuable insights for improving medical diagnoses, treatments, and disease prevention. Research in this field delves into the rheological properties—viscosity, elasticity, and surface tension—of bodily fluids, as well as their interactions with cells, tissues, and organs.

The analysis of bodily fluid behaviour plays a critical role in various medical disciplines, such as hemodynamics, physiology, endocrinology, and oncology. For example, understanding the rheological properties of blood can be crucial for diagnosing and managing cardiovascular diseases such as hypertension and atherosclerosis. Furthermore, the study of bodily fluids can provide essential insights into the immune system's response to infections and inflammations and the spread of chemicals and drugs within the body.

Advanced experimental techniques and analytical tools are employed to conduct WATER studies. These include fluorescence microscopy, infrared spectroscopy, computed tomography, and computational modelling. These approaches allow researchers to visualise and analyse the structure and properties of bodily fluids in detail, gaining critical information for discovering new biomarkers, designing targeted therapies, and understanding physiological and pathological processes.

In conclusion, the study of bodily fluid behaviour through WATER research represents a highly relevant scientific field, providing essential knowledge for advancing medicine and biomedical research. Exploring the dynamics of bodily fluids offers insights for early diagnosis, personalised medical treatments, and overall health improvement.