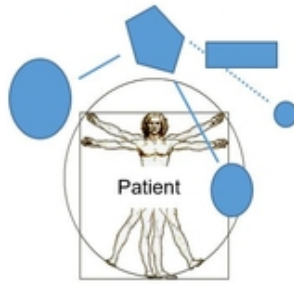## Active Substances

The area of Active Substances is dedicated to personalised therapy strategies for various diseases and the decoding fundamental cellular processes. The main focus here is on computer-assisted modelling and prediction of molecular a cellular reactions, which are used in therapy planning. Furthermore, new active substances are to be developed as dru for personalised therapies.

For a better understanding of the complexity of biological systems, it is future-oriented to closely combine experimental methods biomedical research with systems theoretical approaches from the engineering sciences. The overriding goal of the cooperation the CDS between scientists from different disciplines is to gain **new insights into complex pathophysiological and biomedic relevant regulatory processes in the course of disease.**

In particular, **chronic inflammatory diseases and cancer** are of importance here, as they are by far the most frequent causes death in Saxony-Anhalt and thus represent major challenges for health research. Within the framework of innovative preclini inflammation research in the DFG-funded Research Training Group 2408 "Maladaptive processes across physiological barriers chronic diseases" also innovative methods in biomolecular simulation are being used which enable the characterisation therapeutic target structures and the identification of active substances. In this way, a direct transfer of knowledge from ba research into clinical and industrial applications is made possible, which holds great potential for future opportunities in precisi medicine.
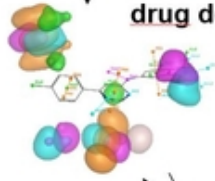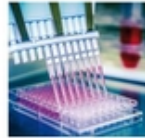
Target structures

Patient
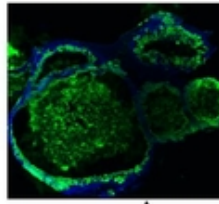
Modeling & drug design

Preclinical studies

Analysis

Synthesis

Example for a thematic demonstration „Biomedical systems"
Target structures-Drug design-Preclinical studies

Research
- ▸ Energy Conversion
- ▸ Chemical Production
- ▸ Active Substances
- ▸ Key Technologies