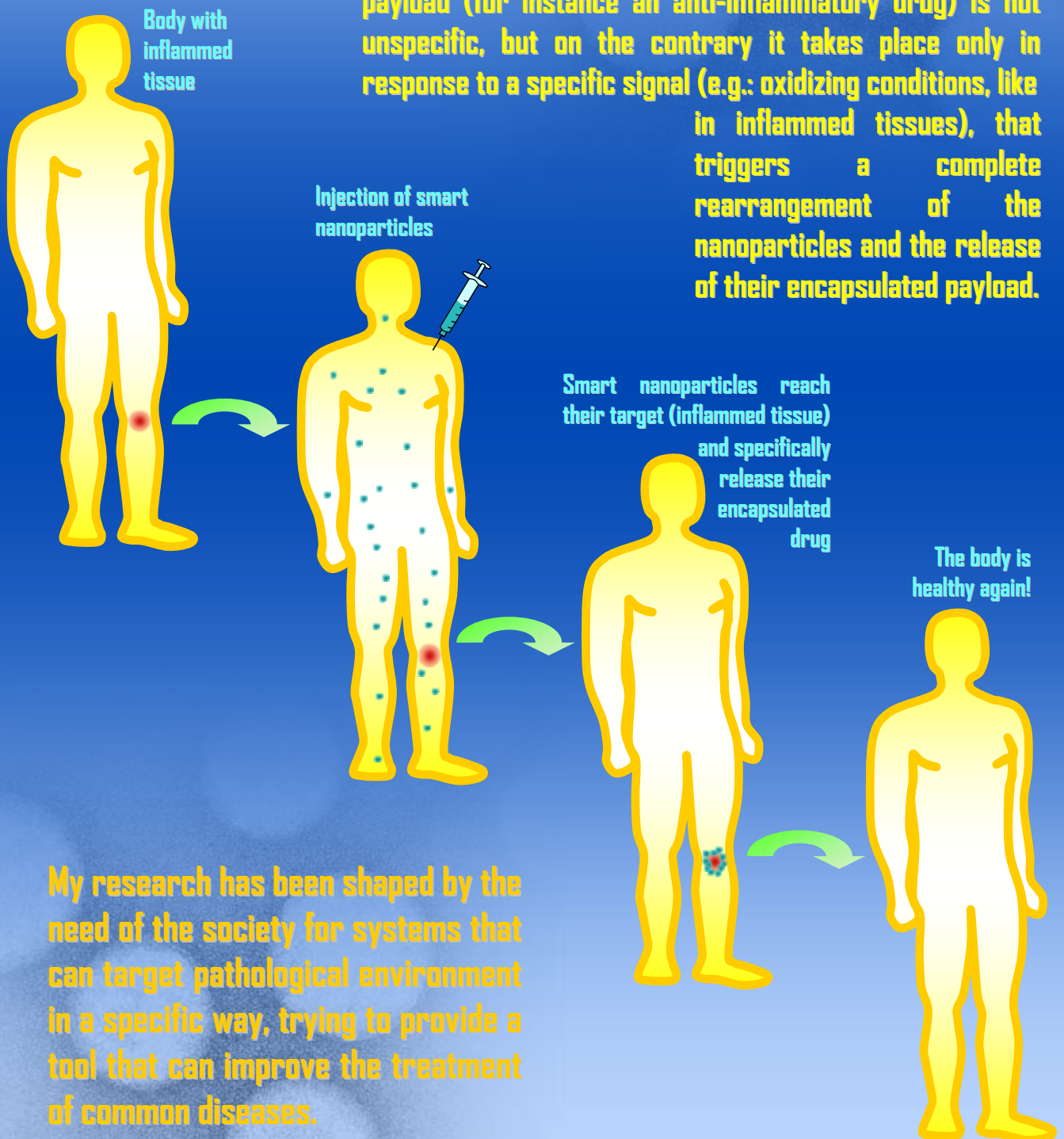


Can nanoparticles be smart?

Nanoparticles are "nano" object ("nano" originates from the Greek word meaning dwarf: one nanometre is one billionth of a metre and is tens of thousands of times smaller than the width of a human hair) that can host a drug, protecting it and transporting it until a release takes place.

With smart nanoparticles, the release of the encapsulated payload (for instance an anti-inflammatory drug) is not unspecific, but on the contrary it takes place only in response to a specific signal (e.g.: oxidizing conditions, like in inflamed tissues), that triggers a complete rearrangement of the nanoparticles and the release of their encapsulated payload.



My research has been shaped by the need of the society for systems that can target pathological environment in a specific way, trying to provide a tool that can improve the treatment of common diseases.