**Summary of the proposal:**

The present study aimed at evaluating the efficacy of plant extract loaded biopolymer nanoparticles in treatment of diseases induced by heavy metal pollutants in Nile river water as well as producing biomimetic nanofiber scaffolds by electrospinning in order to offer structural support for cell adhesion and subsequent tissue formation to replace the damaged tissues in the main organs as liver with the use of nanopolymers in the fabrication of these scaffolds. This project is focused on conducting an assay to measure heavy metals assimilation by the bioremediation bacterium, testing a species of bacteria to measure its ability to metabolize oil as a potential bioremediation of oil spills and biofuel production. We hope to develop a potential vaccine for humans to prevent illness in the event of exposure to a biological agent to achieve the term of biodefence. We hope to prepare RNAi (RNA interference) for turning off disease mechanisms.

**The activities of the Spanish company:**

The company will share in developing the dosage form of the vaccine or the drug. The products enter the marketplace through a company and, as it do, it begin to make a profit. As venture capital (the initial investment money) is recouped and profits are generated, the companies can hire additional staff for more research and development. The need for more scientific and nonscientific staff increases, which in turn fuels the development of more products with more applications. As a company's growth spirals, it adds more employees, who generate more products.