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| Título del Proyecto       | <b>Engineered Particles for Chemical Communication (EDISON)</b>  |
| Nº de expediente asignado | 101052997  |
| Abstract                  | <p>This project aims to the development of communication at the nanoscale and to advance in understanding of how abiotic micro/nanoparticles can communicate between them and how micro/nanoparticles can communicate with living systems. In this context, an approach for establishing communication at the nanometric level is to mimic how nature communicates. Chemical or molecular communication, based on transmitting and receiving information by means of molecules (chemical messengers) is one of the communication forms used by living organisms. Moreover, many swarm systems found in nature communicate by modifying the environment using a concept called stigmergy. The advantages of nanoparticles that communicate each to another are immediately obvious; they constitute the basis of a dynamically interacting network eventually resulting in certain autonomy of the system. If we would be able to raise the bases for communication between micro/nanoparticles and between micro/nanoparticles and cells, the potential future applications in the biomedical field, environmental research and industry technology are almost unlimited. The project will establish firm handholds for the use of nanoparticles able to communicate from one to another and with cells in different applications. The project will trace, optimize and adapt all single steps from the idea to its implementation into applicable final systems with the aim of targeting issues that are difficult to address with conventional single particles. The project is divided into three WPs. The first work package (WP1) will create the basic elements for chemical communication. In a more complex situation, WP2 will use the tools of WP1 to develop systems able to establish communication between nanoparticles and living systems. Finally, WP3 will generate nano-systems integrating gated nanoparticles and up-to-date electronics to develop new communication structures.</p> |
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| Enlaces:                         | <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2021-adg">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2021-adg</a><br><a href="https://edison.webs.upv.es/">https://edison.webs.upv.es/</a> |   |

