



WORKING GROUP



## Nanotechnologies for cell therapy

*Two European projects foster the application of stem cells for therapeutic uses*



Regenerative medicine and therapies using stem cells offer unique opportunities for treating a very wide range of diseases. Yet scientists are still some way from fully understanding how stem cells are able to trigger the healing process. This makes it difficult to approve new treatments using stem cells. The H2020 AUTOSTEM

project seeks to develop an automated platform for the controlled, large-scale production of stem cells to be used in treatments.

“The aim is to bridge current information gaps, generating new knowledge about cell selection and expansion using innovative Medicine of the University of Genoa. An interest in the dynamics and distribution of in vivo stem cells has led the two researchers to a second H2020 project, STARSTEM, which may lead to great strides in this direction. The two projects involve multidisciplinary research groups

(containing engineers, physicians, medical doctors, biologists and high-tech firms) from five nations. The aim is to bioreactors”, explain Chiara Gentili and Maddalena Mastrogiamomo of the Department of develop automated and certified stem cell production of that can be used in treatments, as well as a system of nanoparticles that will be used to mark the stem cells that are manufactured and track them in patients using innovative imaging systems. For more information: [www.autostem2020.eu](http://www.autostem2020.eu); [www.starstem.eu](http://www.starstem.eu). 