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## Press release

### THE UNIVERSITY OF L'AQUILA WILL COORDINATE TWISTEDNANO, A EUROPEAN RESEARCH PROJECT ON CHIRAL PHARMACEUTICALS

The University of L'Aquila will coordinate the project *TwistedNano - Twisted nanophotonic technology for integrated chiroptical sensing of drugs on a chip* financed by the Pathfinder Open 2021 call of the European Innovation Council.

*TwistedNano* will be developed by a consortium of **6 European Academic Institutions** (UnivAQ - Università degli Studi dell'Aquila, Italy, MPL - Max Planck Institute for The Science of Light, Germany, EPFL - Ecole Polytechnique Fédérale de Lausanne, Switzerland, CNRS - Centre national de la recherche scientifique, France, IIT - Istituto Italiano di Tecnologia, Italy, and ICFO – The Institute of Photonic Sciences, Spain), **a global industrial player in pharmaceuticals** (Dompé Farmaceutici S.p.A., Italy) **and a young start-up** (Foresee Biosystems, Italy).

The project, awarded by the HE-EIC Pathfinder Open 2021 call, has been financed by a total budget amounting approximately to 4 million euros and **will start on April 1st 2022**.

*TwistedNano* aims at developing an innovative platform to measure tiny amounts of chiral drugs.

Chirality is the asymmetric property of an object that makes it distinguishable from its mirror image, as happening to our hands. In pharmacology, chirality of molecules plays an important role because the efficacy of drugs largely depends on their chiral composition. Therefore, chiral purity and selectivity are important for the development of new drugs and for testing their biotoxicity.

In particular, the quest for new drugs requires reliable, ultra-sensitive and fast techniques to identify, refine and test small volumes of chiral drug candidates for clinical trials. *TwistedNano* addresses this need through the development of next-generation miniaturized photonic devices enabling the characterization of small quantities of chiral drugs with volumes of a few nanolitres through light, revolutionizing at source the technological toolbox for drug discovery and nanomedicine.

The academic partners involved are European leaders in the field of nanophotonics, ultrafast spectroscopy and nonlinear optics. The highly multidisciplinary research team will focus on the development of innovative optofluidic devices that will enable overcoming current sensitivity limits for chiral sensing.



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