

**APPLICATION OF CONVERGENT TECHNOLOGIES
(NANO-BIO-INFO-COGNO) IN HEALTH:
THE IBERO-NBIC NETWORK**

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In the last decades, several technologies with sound scientific basis have reached a high degree of development and have a strong impact in various areas of the society. These fields are: nanotechnology, biotechnology, information technologies and cognitive technologies (NBIC). The convergence between them is expected to produce innovative advances in technologies that may contribute to the improvement of citizen's health and welfare. The Ibero-American scientific and technological communities might face important challenges but also opportunities for innovation and development.

Healthcare is one of the fields where this convergence is already taking place. However, NBIC convergence is still growing in the Ibero-American region and new research projects and collaborative networks are being funded in order to facilitate the interaction between groups that work within the different fields or within their intersections (Nano-Bio, Nano-Info, Nano-Cogno).

The Ibero-American network (Ibero-NBIC) has recently been funded by the CYTED (Ibero-American Program for Science and Development) for the period 2009-2012. Ibero-NBIC has eleven nodes from seven countries (Spain, Portugal, Venezuela, Brazil, Uruguay, Argentina and Chile) with complementary expertise in all of the four areas. The network is coordinated by the University of A Coruña (Spain). This project aims to gather a broad community of scientists from the Ibero-American region that know, develop and assess applications of Convergent Technologies in Healthcare from an integrative and multidisciplinary perspective. The network will promote synergies among countries, disciplines and methods, and it will pay special attention to the related ethical, legal and social aspects. Training and mobility of researchers and knowledge management in the field are also issues to be addressed by this project. Finally, specific network groups will model concrete scenarios of application in healthcare (colorectal cancer diagnosis, therapy and prevention with specific nanoparticles) that will be used in prospective studies.

In summary, the activity of the Ibero-NBIC network aims to contribute to the CYTED objectives through the elaboration of a research Roadmap for Nanomedicine and Convergent Technologies in Health, taking into account the specifics of the region and the state of play in other parts of the world (EU, USA, Japan). It is expected that this exercise will generate new programs and grants and give a better view of the benefits of these research avenues and their consequences on society. This program will be the key to exposing the young scientists to the convergence of these technologies at the very beginning of their professional careers, giving them a broader vision on the scientific basis and expected impact on health and society.