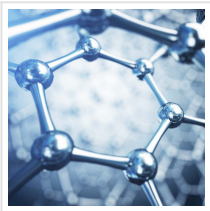
Politecnico Di Milano: Project for Innovation in Nanotechnology Is the Winner of ERC Starting Grant



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Politecnico di Milano has won a new Starting Grant issued by the European Research Council (ERC), the European Union's programme that funds scientific research. Funds have been awarded to project B3YOND (acronym for "Beyond nanofabrication via nanoscale phase engineering of matter"), coordinated by Edoardo Albisetti, which proposes innovations in the nanomanufacturing scene.

The term designates the overall processes and techniques, which underpin the creation of new materials and devices by manipulating matter with very high precision standards (in the range of one billionth of a millimetre!).

These techniques have been an extraordinary stimulus for the development of nanoscience and of nanotechnology over the past decades. They seem to have achieved physical limitations that can only be overcome with original and entirely innovative approaches.

The aim of Albisetti's project B3YOND is to innovate the nanotechnological approach by proving the efficacy of a new processing method called "phasic nano-engineering". A heat source of nanometric dimensions is positioned and shifted with the utmost precision on the material's surface in order to induce controlled phasic changes.

Phasic manipulation of the material will allow to control its physical properties (e.g., electrical resistivity and conductivity, or magnetism) with unprecedented mastery. This innovative method will be used to develop a new class of artificial nanomaterials and devices for nanoelectronics and spintronics.

The project will be conducted at the Department of Physics, in partnership with PoliFab, Politecnico di Milano's micro and nanomanufacturing centre.

Read the original article on Science Business Network.