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A researcher at the Campus Terrassa of the Universitat Politècnica de Catalunya (UPC) coordinates an international project to train young researchers to study climate phenomena from the point of view of complex systems

The LINC project (Learning about Interacting Networks in Climate), that started last December 2011 and that lasts 4 years, is part of the Marie Curie's Seventh Framework Programme of the European Union and is funded with more than 3.7 million.

The LINC project will train 15 young researchers from around the world, divided between the nine research centers and international companies involved in the project. The young researchers will apply nonlinear methods, networks theory and complex systems to the study of climate phenomena such as El Niño. The first two of these young researchers are already working in Terrassa Campus of UPC in Spain and in the Potsdam Institute for Climate Impact Research in Germany.

The LINC project

The LINC project main objective is to train 15 young researchers in applying the techniques of study of complex systems to the study the Earth climate events. LINC is funded with more than 3.7 million as part of the Marie Curie program of the Seventh Framework Programme of the European Union. The project coordinator, Cristina Masoller, holds a PhD in Physics from Bryn Mawr College in Pennsylvania (USA) and is a member of the research group Nonlinear Dynamics, Nonlinear Optics and Lasers (DNOLL) of UPC in Campus Terrrassa.

The climate is a complex system

Currently the vast majority of climate scientists and meteorologists use linear methods for the analysis of climate and its associated phenomena. However, a part of the scientific community thinks that if the climate is a complex system (as is the brain, the Internet, the global economy) relevant results may be obtained by using the methodology of complex networks that is being used for the study of complex systems.

Nonlinear methodology

Masoller explains "the interrelationship between the subsystems that make up the climate is very high, so it is necessary to approach this area with a multidisciplinary perspective. The nonlinear approach has proved a very efficient tool in the study of complex systems in different areas, such as neural networks, or social networking sites. The Earth climate is a very complex system, but the application of nonlinear methods to this study is just beginning, so there are no qualified researchers with expertise in both, climate phenomena and complex systems techniques. Hence, LINC is a project of great interest where we have deposited a lot of expectations".

Multidisciplinary study

Indeed, the requirement of multidisciplinarity in this project has encouraged the participation of institutions and enterprises from different sources. In LINC involves nine partners from several countries (Germany, Holland, Israel, Uruguay, Spain and France), of which six are university partners and three are private sector companies, specialists in the areas of complex systems, environment and earth sciences .

Ignacio Deza, one of the first two researchers involved in LINC

The 15 researchers who will be selected and trained by the LINC project will be distributed along the course between the 9 partners. Deza Ignacio is one of them, and now works under the supervision of Dr. Masoller in Building Gaia in the Campus of UPC in Terrassa. To Deza, from Argentina, "this is a unique opportunity. Being able to do my PhD in Europe and also participate in a project as innovative and as exciting as this is the dream of every young scientist, because you feel that the knowledge that I will acquire will be useful for society and the scientific community," says the researcher.

LINC Project Information: www.climatelinc.eu