

June 26, 2012

Thomas Sotiriou, a SISSA researcher, has been recently awarded with an ERC Starting Grant, for the proposal entitled "Challenging General Relativity". The research project has been funded with € 1,375,226.

Thanks to this grant, it will be now possible to put together an extended research group of young and more experienced researchers (students, postdocs, advanced postdocs) and to foster and support a wide network of international collaborations. This group aims to conduct cutting edge research and initiate a whole new perspective on this research field.

### **Research topics:**

Einstein's celebrated theory of general relativity, successful as it may have been, has limitation, as there are regimes where it is or it might not be sufficient to adequately describe gravity. The proposal is to try to gain new insight into the intricacies of the gravitational interaction through an across-scales exploration of these limitations: from quantum effects to the large scale structure of the universe, and from the foundations of gravity theory to nature's "laboratories" for the gravitational interactions - compact stars and black holes. Like the pieces of a puzzle, the synthesis of our results is expected to significantly aid our understanding of gravity, and this is our ultimate goal.

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