

ESF Short Visit Grant

Devis Abriani

Frobenius Manifolds in Singularity Theory

Scientific Report

I visited the Instituto Superior Técnico in Lisbon (Portugal) from the 9th till the 23rd of November 2005. There I had the possibility to learn many aspects of the mirror side of my present research project. The main topics I dealt with were the Gromov-Witten theory for orbifolds and their crepant resolutions and then Gromov-Witten invariants and their relations with modular forms. In the first case interesting relations between a conjectured equality of GW potentials and the associated Frobenius structures were obtained. I had the possibility to discuss fruitfully with many experts in these sectors. I learned localization techniques in Gromov-Witten theory and mathematical aspects of the topological B-model. Theoretical aspects, warm-up and interesting examples were studied in all these fields. I could attend many seminars dealing with relations between algebraic geometry and topological strings, usually in the framework of Gromov-Witten theory. Besides all this, I could attend an interesting series of minicourses on Grupoids and Non Commutative Geometry.

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