Research activity report for 2013
of the project "Autour d'équations elliptiques singulières" LEA Math-Mode

Radu Ignat[*]

During 2013, the following activities took place in the framework of the project that involves a team from Univesité Paris-Sud (Orsay) and a team of University Babes-Bolyai (Cluj, Romania):

1. A first visit of Radu Ignat and Filippo Santambrogio (Orsay) at University Babes-Bolyai in Cluj from 14 to 18 January, 2013. They gave the following talks:

   - Filippo Santambrogio, *An introduction to branched transport and its approximation via elliptic problems*;
   - Radu Ignat, *Elliptic approximation of singular energies*.

   We also discussed several aspects of best constants in Sobolev-type inequalities defined on Finsler manifolds (and more general, on metric measure spaces).

2. In May 2013, Alexandru Kristaly (Cluj) came in France (as a fellow at IHES, Bures-sur-Yvette). Also, Csaba Farkas (PhD Student at Babes-Bolyai University) visited the University Paris-Sud. A. Kristaly gave the talk "Caffarelli-Kohn-Nirenberg inequality on metric measure spaces: symmetrization and rigidity" within the PDE Seminar in Orsay. Further problems were formulated/discussed in this direction, namely the mean value properties on Minkowski spaces.

---

[*]Coordinator of the project, Professor at Institute of Mathematics in Toulouse, email: Radu.Ignat@math.univ-toulouse.fr