Research Statement
Young set theory workshop 2011

Daniel Donado

I have just finished my thesis for degree of Magister in Mathematics at the Universidad de los Andes working under directions of Andres Caicedo from Boise State (Idaho), about clasification of metric spaces in ω_1 under Axiom of Determinacy and $V = L(\mathbb{R})$; following the doctoral dissertation of Apollo Hogan (2004). My research is focused on improve the classification of ordered metric spaces, studying more topological consecuences of Determinacy and partition properties on ω_1 and ω_2 in order to get results there and hopefully for higher cardinalities. I have encountered many issues in this goal because of the necesary tools from the theory of sharps and definability of sets that are used in the clasification on ω_1, so, looking for tools to do a similar work on a bigger cardinal, I have been recently following a seminar on Proper Forcing leaded by David Aspero and Andres Villaveces at the Universidad Nacional in Bogotá (Colombia). We have studied generalities and consecuences of the Proper Forcing Axiom and the Mapping Reflection Principle, but we have just started and some open problems that professor Aspero has exposed to us really seem interesting and motivating.

Here at Bogotá we are beginning to create a research group in set theory, but still we don´t have a solid basis, so I think this is a great oportunity to focus my research and share the iniciative we have here with a lot of excellent colleagues, making bonds with other researchers and their universities. Many students comment that this is the best oportunity to do this and I don´t want to miss it.