

BI-CO MATHEMATICS COLLOQUIUM

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*“O-minimal structures: tame fragments
of analysis”*

Monday, November 17, 2008

Talk at 4:15 – Park 328
Tea at 3:45 – Park 355, Math Lounge

Abstract:

We know that the world of real analysis is rather wild, inhabited by exotic beasts like Cantor sets and space-filling curves. To navigate this landscape, you need vigilance and care. But perhaps you'd prefer to simply ignore the wilder aspects of analysis. If so, try the various rose-colored glasses on offer from your neighborhood logician. Through such glasses, only certain sets and functions are visible (those that have nice definitions according to a prescribed logical formalism); the visible part of analysis is called an "o-minimal structure", and it is completely tame. In particular, Cantor sets and space-filling curves are not found in any o-minimal structure, because an o-minimal structure has a well-behaved dimension theory. In my talk, I will provide exposition of the basics of o-minimal structures, with examples; I will also say a few words about applications to other areas of mathematics.

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