

Mês de: **MARÇO 2014**

## SEMINÁRIO DE LÓGICA MATEMÁTICA

**Dia 27 de Março (quinta-feira), às 15 horas, na Sala B3-01**

Harrington's conservation result (part 2)

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**Abstract:**

The theory PRA (primitive recursive arithmetic) constitutes the formal counterpart of the otherwise vague notion of finitistic mathematics. That mathematics can be essentially developed in such a framework constitutes the essence of Hilberts program. More precisely: even though certain infinitary principles need to be considered the consistency of the augmented system can be reduced to the consistency of the finitary basis (in our interpretation, to PRA).

Hilberts program cant be pursued in general terms. However, Harringtons result provides an instance of a partial fulfilment of that program since in conjunction with the fact that the theory  $RCA_0$  is  $\Pi_2^0$  conservative over PRA shows that by expanding PRA to a theory axiomatised using infinitary principles, e.g. the Weak Knigs Lemma, the strongest system has the same consistency strength as PRA.

