



Mês de: SETEMBRO 2012

SEMINÁRIO DE LÓGICA MATEMÁTICA

Dia 20 de Setembro (quinta-feira), às 17h, na Sala B3-01

Induction, induction, induction.

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Abstract:

Set theory is a universal language which allows to encode many data structures directly. When working with theorem provers, it is often better to replace encodings of data structures by constructions which allow to represent these data types directly. This allows the user to benefit from reduction rules associated with these constructions, and to make use of automated theorem proving facilities associated with them.

The goal would be to introduce generic principles which allow to introduce lots of data structures based on view language constructs, so that the user doesn't have to learn new constructs all the time.

Many definitions in mathematics are inductive in nature. In this talk we present a zoo of extensions of inductive definitions. Although they originate in the context of Martin-Loef Type theory, it seems to be interesting to consider them as well in more classical settings in order to facilitate the understanding of various constructions.

In this talk we will consider the following extensions of inductive definitions: standard inductive definitions, universes (inductive definitions of families of sets), induction-recursion (combining induction and recursion), induction-induction (Conway's surreal numbers can be seen as an example of induction-induction), the Mahlo universe, the extended predicative Mahlo work (joint work with Reinhard Kahle), and coinductive definitions.

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