Sebastian Eberhard (Bern). "A natural feasible theory of truth."

Truth theories over an applicative setting have a high expressive strength in spite of the simplicity of their axioms. They allow the interpretation of theories of explicit mathematics and of fixed point theories.

The truth theory T_{PT}, which is introduced in this talk, shares these properties, but has a very low computational strength: It proves totality exactly for the polynomial time computable functions. It can therefore be seen as feasible analogue of the truth theories of strength PRA introduced in [1].

The feasible truth theory T_{PT} is formulated over an applicative theory of words and allows full truth induction for a compositional truth predicate. In contrast to Cantini's truth theory of strength PRA, its truth predicate can only reflect initial segments of the collection of words, and not the whole set of words.

In the talk, we will discuss mainly the upper bound of T_{PT}. It will be shown that the expressive power of the theory makes it unlikely that common techniques to bound applicative theories work. T_{PT} e.g. proves strong generalizations which derails the common realisation approach. Nevertheless, the feasibility of T_{PT} can be proved using the insight that the truth axioms mainly copy or rearrange information instead of creating new. Therefore, the truth axioms can be shown to be nearly idle from a computational point of view using a realisation approach that is more efficient than the usual one. This approach will be presented and it will be sketched how to realise truth induction.

[1] Cantini, *Choice and uniformity in weak applicative theories*, ***Logic Colloquium '01***, vol. 20 (2005), pp. 108–138.

Martin Fischer (Munich). "Truth: Expressivity and Minimality."

The talk focuses on the question whether a minimal theory of truth can adequately capture the expressive function of the truth predicate. I am going to argue that a conservative theory of truth can be ad- equate. For this purpose I will focus on a theory of positive truth and highlight three properties of the theory: finite axiomatizability, provability of metatheorems, and speed-up. These properties justify the claim that the theory adequately captures the expressive power of the truth predicate.

Kentaro Fujimoto (Oxford). "Axiomatic theories of truth for set theory."

The study of axiomatic theories of truth has been largely focused on a special setting where their base theories are arithmetical such as PA. Instead of arithmetical base theories, I consider axiomatic theories of truth over ZF set theory as a base theory. There are some disanalogies between these two different settings, while some direct analogies hold good of course. My talk also aims at providing a motive with the new trend of the study of class theory in that various axiomatic theories of truth over ZF are correlated with subsystems of Morse-Kelley class theory MK.

Leon Horsten (Bristol). "Truth theories: virtues and vices."

Most researchers feel that in a truth theory, one cannot have everything that one wants: certain prima facie desiderata can only be met by sacrificing others. Many trade-offs are possible. Therefore it is no surprise that we have seen semantic and proof theoretic truth theories proliferate in past decades.

The time has come for a critical reflection on the prima facie theoretical virtues for truth theories (such as coherence, compositionality, disquotationality, sustaining ordinary reasoningc). This seems the only principled way of separating the sheep from the goats.

Some efforts in this direction have been undertaken in recent years ([Leitgeb 2007],[Sheard 2002]). But much more needs to be done. In this talk I want to contribute to this effort.

References:
Leitgeb, H. What theories of truth should be like (but cannot be). Philosophy Compass 2(2007), p. 276–290.
Sheard, M. Truth, provavility, and naive criteria. In: V. Halbach 7 L. Horsten (eds) Principles of Truth. Hansel-Hohenhausen, 2002, p. 169–181.

Reinhard Kahle (Lisbon). "Truth, sets, and recursion."

Going back to prior work of Dana Scott, Frege structures were introduced by Peter Aczel as a semantical concept to define a notion of set by means of a partial truth predicate. In this talk, we will review some technical and philosophical aspects of such a set theory, addressing in particular the question how the underlying recursion-theoretic structure contributes to the resulting set theory.

Thomas Strahm (Bern). "Weak theories of truth and explicit mathematics."

In this talk we survey recent developments in the study of proof-theoretically weak systems of Feferman's explicit mathematics and theories of truth. We start off from pure first-order applicative theories based on a version of untyped combinatory logic and augment them by the typing and naming discipline of explicit mathematics or, alternatively, by a truth predicate in the sense of Frege structures. We discuss the proof-theoretic strength of the so-obtained formalisms and the general relationship between weak truth theories and explicit mathematics.

(joint work with Sebastian Eberhard)