



**Berlin
Mathematical
School**

BMS Friday Colloquium

Friday, 22 January 2010, 2:00 pm

Tea before the lecture starts at 1 pm

BMS Loft, Urania
An der Urania 17, 10787 Berlin

Felix Mühlhölzer (Göttingen): "Surprises in Mathematics"

Ludwig Wittgenstein developed many thoughts in order to distinguish between mathematics and empirical science. In the text published as Appendix II of Part I of his *Remarks on the Foundations of Mathematics* he offers the pointed diagnosis in § 2 that if you are surprised by the result of a mathematical demonstration, then you have not understood it yet. This is in notable contrast to Niels Bohr's statement about quantum mechanics:

if you are not surprised by it, then you have not understood it yet.

According to Wittgenstein, there are of course surprises in mathematics, which, however, do not concern mathematical facts, but only specific kinds of representation. Only they make a mathematical situation surprising. There are mathematical examples that support this view, but others raise problems. Wittgenstein's view certainly needs clarification, Felix Mühlhölzer will try to shed some light on Wittgenstein's ideas in his talk.

